Schwalbe Service & Versand GmbH

Zentralwerkstatt und Ersatzteildepot für ORION- und ISP-Produkte

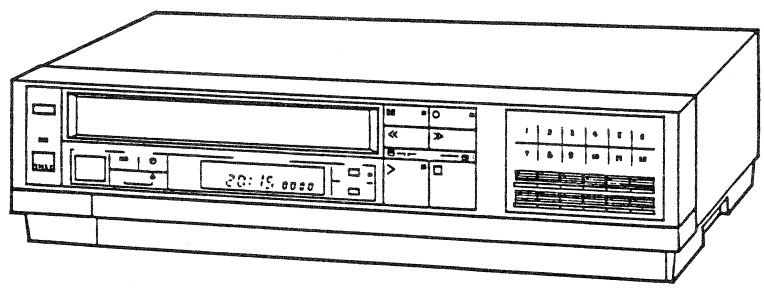
Service Manual

Nachdruck bzw. Kopieren dieser Unterlagen ist grundsätzlich verboten!

ORION VHS PAL

Video Cassette Recorder

VH-512 RC (348/152)
VH-600 RC
VH-666 RC
VH-820 RC (771/279)
VH-3050 RC
VH-3060 RC
VH-412 F
VH-744
VH-900
VH-974
VH-1204
VR-2957

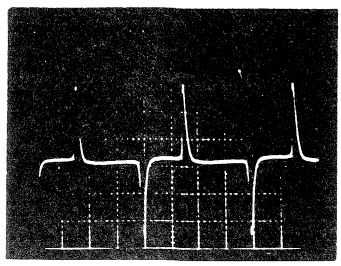


Bei technischen Änderungen können Ergänzungsblätter angefordert werden.

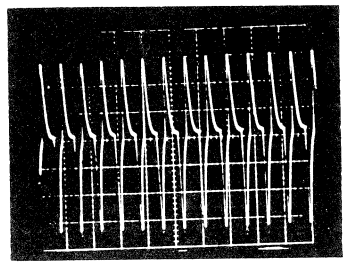
Specifications are subject to change without notice.

SL-Druck GmbH

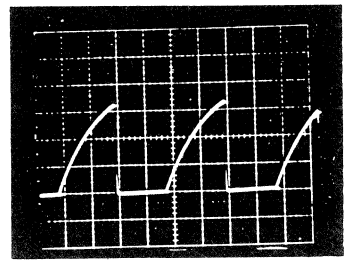
CHASSIS WAVEFORMS



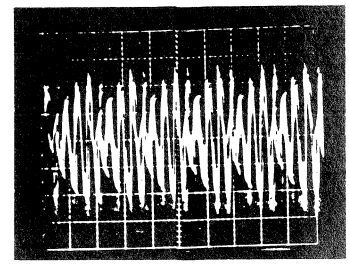
TP2001 20Pin 1.1Vp-p
PB CTL



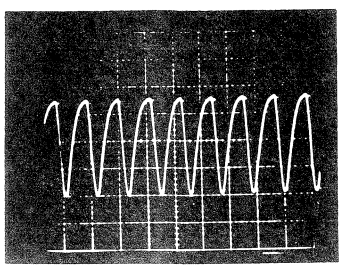
TP2001 1.26Vp-p V.Search CTL



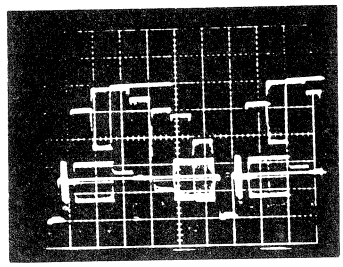
TP2001 28Pin 3.3Vp-p
PB



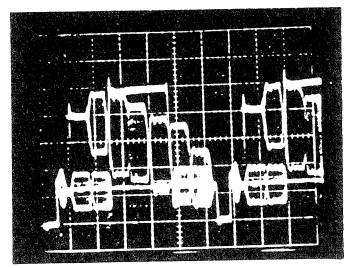
TP3001 1Vp-p SUB CONV



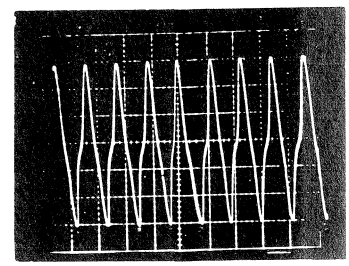
TP3003 0.36Vp-p VCO



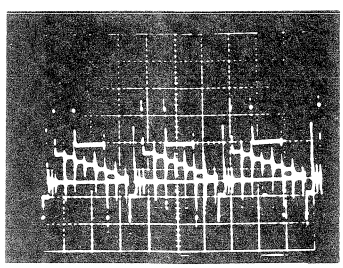
TP3005 1Vp-p VIDEO OUT



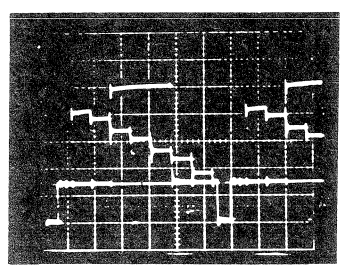
TP3005 1Vp-p PB VIDEO OUT



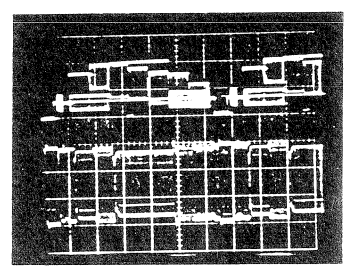
TP3006 1.2Vp-p VXO



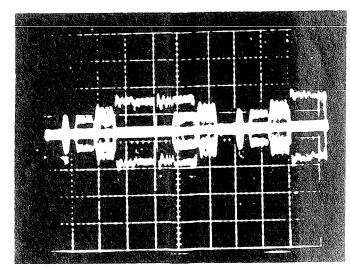
TP4001 White Clip
Dark Clip



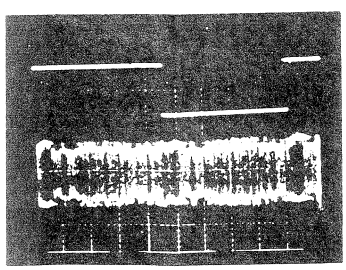
TP4002 1Vp-p REC AGC



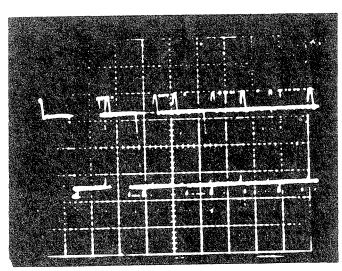
TP4005 150mVp-p REC



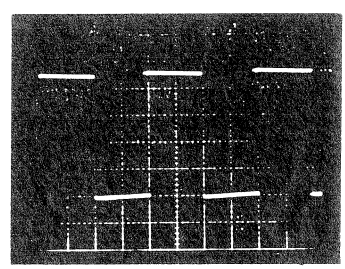
TP4005 28mVp-p REC COLOR



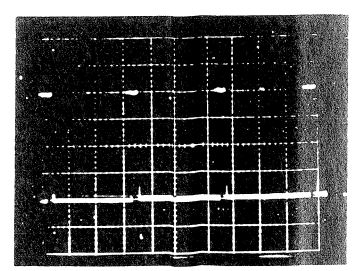
TP4006 250mVp-p PB FM



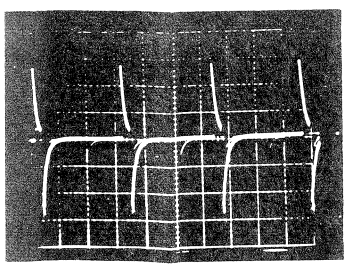
TP4006 200mVp-p REC



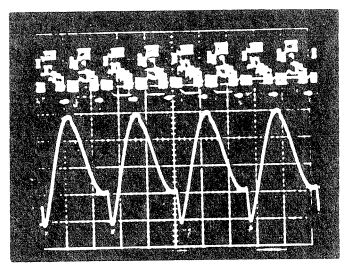
IC2001 ㉕ 5Vp-p
HEAD SW



LA7031 ④ 8Vp-p SYNC SEP



LA7035 ⑥ 10.4Vp-p SYNC IN



TP3701 4Vp-p SECAM DETECTOR

AMENDMENT OF PARTS LIST

Model VH-820RC

SERVICE MANUAL

REF. NO.	DESCRIPTION	DESCRIPTION(new)	PARTS NO.
⚠ R510	(ADD.)	68 (1/4W)	R61584680J
R1231	820 (1/6W)	1.2K (1/6W)	RO11T6122J
R2116	6.8M (1/4W)	3.3M (1/4W)	RO11T4335J
R4278	(ADD.)	75 (1/6W)	RO11T6750J
C502	(ADD.)	3300UF 25V	E01103332M
C503	(ADD.)	2200UF 25V	E01103222M
C506	(ADD.)	3300UF 25V	E01103332M
C515	(ADD.)	10000UF 16V	E01LF2103M
C3051	47000PF 50V	22000PF 25V	CH1TF03H4Z
C3712	(ADD.)	10000PF 16V	CH4TY0214M
C4117	(ADD.)	0.0068UF 50V	P111T0682K
C4213	100UF 10V	22UF 16V	E011T2220M
C6001	(ADD.)	2.2UF 50V	E011T52R2M
C6009	2.2UF 50V	0.47UF 50V	E01NT5R47M
C6010	220UF 16V	3.3UF 50V	E011T53R3M
C6013	22000PF 25V	220UF 16V	E011T2221M
⚠ D501	(ADD.)	GP-20B-L	D2LF0GP20B
⚠ D502	(ADD.)	GP-20B-L	D2LF0GP20B
⚠ D503	(ADD.)	GP-20B-L	D2LF0GP20B
⚠ D504	(ADD.)	GP-20B-L	D2LF0GP20B
⚠ D507	(ADD.)	10D-1 FC	D28F010D10
⚠ D508	(ADD.)	10D-1 FC	D28F010D10
⚠ D509	(ADD.)	10D-1 FC	D28F010D10
⚠ D510	(ADD.)	10D-1 FC	D28F010D10
D1212	TLS113	TLG113A	002155O010
IC501	(ADD.)	STK5422	I23S954220
Q2012	(ADD.)	2SC2274K-T	TC3I2274K0
Q3702	(ADD.)	2SC3400-T	TN3TC03001
Q3703	(ADD.)	2SC3400-T	TN3TC03001
L4028	100UH	820UH	021673821K
T501	(ADD.)	0557001	040557O013
PCB301	VV0023C	VV0023B	13VV0023B1
PCB601	VE0078C	VE0078B	13VE0078B1
CD505	(ADD.)	7FEEI DAIWA	120I450001
CP501	(ADD.)	1-172681-5	06941F0060
CV501	(ADD.)	SB-1235B-U09	12AL10002A
⚠ F501	(ADD.)	1A (T) 250V	0802T010O1
⚠ F502	(ADD.)	2.5A (T) 250V	0802T2R5O1
⚠ F503	(ADD.)	1.25A (T) 250A	0802T1R2O1
FH501	(ADD.)	NPF0109-02-010	0672000OO1
TP2006	(ADD.)	IPS-2034	126V0000O2
TP2007	(ADD.)	IPS-2034	126V0000O2
TP2008	(ADD.)	IPS-2034	126V0000O2
TP2009	(ADD.)	IPS-2034	126V0000O2
TP3701	(ADD.)	IPS-2034	126V0000O2
TP3702	(ADD.)	IPS-2034	126V0000O2

J49026
0704'85
2917

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION	Q'TY
		-RESISTORS-	
R301	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R302	RO11T6683J	RC ERD-16TJ683T 68K OHM 1/6W	1
R303	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R304	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R305	RO11T6124J	RC ERD-16TJ124T 120K OHM 1/6W	1
R306	RO11T6154J	RC ERD-16TJ154T 150K OHM 1/6W	1
R307	RO11T6123J	RC ERD-16TJ123T 12K OHM 1/6W	1
R308	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R309	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R310	RO11T6474J	RC ERD-16TJ474T 470K OHM 1/6W	1
R311	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R312	RO11T6822J	RC ERD-16TJ822T 8.2K OHM 1/6W	1
R313	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R314	RO11T6334J	RC ERD-16TJ334T 330K OHM 1/6W	1
R315	RO11T6561J	RC ERD-16TJ561T 560 OHM 1/6W	1
R502	RO11T4222J	RC ERD-25TJ222T 2.2K OHM 1/4W	1
R503	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R504	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R505	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R506	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R601	RO11T4103J	RC ERD-25TJ103T 10K OHM 1/4W	1
R602	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R603	RO11T4103J	RC ERD-25TJ103T 10K OHM 1/4W	1
R604	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R605	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R606	RO11T4103J	RC ERD-25TJ103T 10K OHM 1/4W	1
R607	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R608	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R609	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R610	RO11T4103J	RC ERD-25TJ103T 10K OHM 1/4W	1
R611	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R612	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R613	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R614	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R615	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R616	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R617	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R618	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R619	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R620	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R623	RO11T6563J	RC ERD-16TJ563T 56K OHM 1/6W	1
R624	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R625	RO11T6105J	RC ERD-16TJ105T 1M OHM 1/6W	1
R626	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R627	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R628	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R629	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R630	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R631	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R632	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R633	RO11T6563J	RC ERD-16TJ563T 56K OHM 1/6W	1
R634	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R635	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R636	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R637	RO11T6472J	RC ERD-16TJ472T 4.7K OHM 1/6W	1
R638	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R639	RO11T6683J	RC ERD-16TJ683T 68K OHM 1/6W	1
R640	RO11T6821J	RC ERD-16TJ821T 820 OHM 1/6W	1
R641	RO11T6821J	RC ERD-16TJ821T 820 OHM 1/6W	1
R642	RO1124561J	RC ERD-25VJ561 560 OHM 1/4W	1
R643	RO1124561J	RC ERD-25VJ561 560 OHM 1/4W	1
R1001	RO11T6224J	RC ERD-16TJ224T 220K OHM 1/6W	1
R1002	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R1003	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R1004	RO11T6332J	RC ERD-16TJ332T 3.3K OHM 1/6W	1
R1008	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1009	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1010	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1011	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1012	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1013	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1014	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1016	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1017	RO11T4392J	RC ERD-25TJ392T 3.9K OHM 1/4W	1
R1018	RO11T6822J	RC ERD-16TJ822T 8.2K OHM 1/6W	1
R1019	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1020	RO11T6474J	RC ERD-16TJ474T 470K OHM 1/6W	1
R1021	RO11T6474J	RC ERD-16TJ474T 470K OHM 1/6W	1
R1022	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R1023	RO11T4332J	RC RED-25TJ332T 3.3K OHM 1/4W	1
R1024	RO11T6105J	RC ERD-16TJ105T 1M OHM 1/6W	1
R1026	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1027	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1028	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1029	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R1030	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R1032	R3118A270J	R,METAL OXIDE ERG-2ANJ270H 27 OHM 2 W	1
R1033	R3118A270J	R,METAL OXIDE ERG-2ANJ270H 27 OHM 2 W	1
R1034	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1035	RO11T6332J	RC ERD-16TJ332T 3.3K OHM 1/6W	1
R1036	RO11T6682J	RC ERD-16TJ682T 6.8K OHM 1/6W	1
R1037	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1038	RO11T6472J	RC ERD-16TJ472T 4.7K OHM 1/6W	1
R1039	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1040	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1041	RO11T4472J	RC ERD-25TJ472T 4.7K OHM 1/4W	1
R1042	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1043	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1044	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1045	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1046	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1047	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1048	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1049	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1050	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION	Q'TY
		-RESISTORS-	
R1051	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1052	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1053	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R1054	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R1055	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R1072	RO12T2681J	RC ERD-S1TJ681T 680 OHM 1/2W	1
R1073	RO12T2391J	RC ERD-S1TJ391T 390 OHM 1/2W	1
R1079	RO11T4103J	RC ERD-25TJ103T 10K OHM 1/4W	1
R1080	RO11T4473J	RC ERD-25TJ473T 47K OHM 1/4W	1
R1082	RO11T4333J	RC ERD-25TJ333T 33K OHM 1/4W	1
R1092	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1093	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1097	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1201	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1202	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1204	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1205	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1206	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R1207	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1208	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1209	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1210	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1211	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1212	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1213	RO11T6105J	RC ERD-16TJ105T 1M OHM 1/6W	1
R1214	RO11T6681J	RC ERD-16TJ681T 680 OHM 1/6W	1
R1215	RO11T6105J	RC ERD-16TJ105T 1M OHM 1/6W	1
R1216	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1217	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1218	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R1219	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R1220	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R1221	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1222	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1223	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R1224	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1225	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R1226	RO11T6333J	RC ERD-16TJ333T 33K OHM 1/6W	1
R1227	RO11T6821J	RC ERD-16TJ821T 820 OHM 1/6W	1
R1228	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R1230	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R1231	RO11T6821J	RC ERD-16TJ821T 820 OHM 1/6W	1
R1234	RO11T6821J	RC ERD-16TJ821T 820 OHM 1/6W	1
R2001	RO12T2391J	RC ERD-S1TJ391T 390 OHM 1/2W	1
⚠ R2002	R31181332J	R;METAL OXIDE ERG-1ANJ332H 3.3K OHM 1 W	1
R2003	RO12T2221J	RC ERD-S1TJ221T 220 OHM 1/2W	1
R2004	R3118A270J	R;METAL OXIDE ERG-2ANJ270H 27 OHM 2 W	1
R2005	RO12T2010J	RC ERD-S1TJ010T 1 OHM 1/2W	1
⚠ R2006	R31181682J	R;METAL OXIDE ERG-1ANJ682H 6.8K OHM 1 W	1
R2020	RO11T6122J	RC ERD-16TJ122T 1.2K OHM 1/6W	1
R2021	RO11T6101J	RC ERD-16TJ101T 100 OHM 1/6W	1
R2022	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R2023	RO11T6224J	RC ERD-16TJ224T 220K OHM 1/6W	1
R2024	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2025	RO11T6332J	RC ERD-16TJ332T 3.3K OHM 1/6W	1
R2028	RO11T6152J	RC ERD-16TJ152T 1.5K OHM 1/6W	1
R2029	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R2030	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R2031	RO11T6561J	RC ERD-16TJ561T 560 OHM 1/6W	1
R2032	RO11T6561J	RC ERD-16TJ561T 560 OHM 1/6W	1
R2033	RO11T6472J	RC ERD-16TJ472T 4.7K OHM 1/6W	1
R2034	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2035	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R2036	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R2037	RO11T4102J	RC ERD-25TJ102T 1K OHM 1/4W	1
R2038	RO11T4222J	RC ERD-25TJ222T 2.2K OHM 1/4W	1
R2039	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2040	RO11T6564J	RC ERD-16TJ564T 560K OHM 1/6W	1
R2041	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R2046	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R2047	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2048	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2049	RO11T2820J	RC ERD-50TJ820T 82 OHM 1/2W	1
R2052	RO11T6473J	RC ERD-16TJ473T 47K OHM 1/6W	1
R2053	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R2054	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R2055	RO11T6105J	RC ERD-16TJ105T 1M OHM 1/6W	1
R2056	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2057	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R2058	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2059	RO11T6123J	RC ERD-16TJ123T 12K OHM 1/6W	1
R2060	RO11T6563J	RC ERD-16TJ563T 56K OHM 1/6W	1
R2061	RO11T6682J	RC ERD-16TJ682T 6.8K OHM 1/6W	1
R2062	RO11T4154J	RC ERD-25TJ154T 150K OHM 1/4W	1
R2065	RO11T6104J	RC ERD-16TJ104T 100K OHM 1/6W	1
R2066	RO11T6272J	RC ERD-16TJ272T 2.7K OHM 1/6W	1
R2067	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
			1
R2069	RO11T6154J	RC ERD-16TJ154T 150K OHM 1/6W	1
R2070	RO11T6224J	RC ERD-16TJ224T 220K OHM 1/6W	1
R2071	RO11T6124J	RC ERD-16TJ124T 120K OHM 1/6W	1
R2072	RO11T6153J	RC ERD-16TJ153T 15K OHM 1/6W	1
R2075	RO11T6472J	RC ERD-16TJ472T 4.7K OHM 1/6W	1
R2076	RO11T6223J	RC ERD-16TJ223T 22K OHM 1/6W	1
R2077	RO11T6332J	RC ERD-16TJ332T 3.3K OHM 1/6W	1
R2078	RO11T6563J	RC ERD-16TJ563T 56K OHM 1/6W	1
R2079	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2080	RO11T6471J	RC ERD-16TJ471T 470 OHM 1/6W	1
R2081	RO11T6152J	RC ERD-16TJ152T 1.5K OHM 1/6W	1
R2082	RO11T6222J	RC ERD-16TJ222T 2.2K OHM 1/6W	1
R2083	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2084	RO11T6103J	RC ERD-16TJ103T 10K OHM 1/6W	1
R2085	RO11T6822J	RC ERD-16TJ822T 8.2K OHM 1/6W	1
R2087	RO11T6102J	RC ERD-16TJ102T 1K OHM 1/6W	1
R2088	RO11T6391J	RC ERD-16TJ391T 390 OHM 1/6W	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-RESISTORS-		
R2089	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R2090	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R2091	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R2092	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2093	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2094	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R2095	RO11T6273J	RC ERD-16TJ273T	27K OHM 1/6W	1
R2096	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2097	RO11T4223J	RC ERD-25TJ223T	22K OHM 1/4W	1
R2098	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2099	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2100	RO11T6822J	RC ERD-16TJ822T	8.2K OHM 1/6W	1
R2101	RO11T6224J	RC ERD-16TJ224T	220K OHM 1/6W	1
R2102	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R2103	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
R2104	RO11T4103J	RC ERD-25TJ103T	10K OHM 1/4W	1
R2105	RO11T4333J	RC ERD-25TJ333T	33K OHM 1/4W	1
R2106	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R2107	RO11T6474J	RC ERD-16TJ474T	470K OHM 1/6W	1
R2108	RO11T6105J	RC ERD-16TJ105T	1M OHM 1/6W	1
R2109	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R2110	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2111	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2113	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2114	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2115	RO11T6154J	RC ERD-16TJ154T	150K OHM 1/6W	1
R2116	RO61T4685J	RC R25X685JT	6.8M OHM 1/4W	1
R2117	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R2118	RO11T6124J	RC ERD-16TJ124T	120K OHM 1/6W	1
R2119	RO11T6273J	RC ERD-16TJ273T	27K OHM 1/6W	1
R2120	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2121	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2122	RO11T4393J	RC ERD-25TJ393T	39K OHM 1/4W	1
⚠ R2123	R61584470J	R;FUSE ER@-14AJ470P	47 OHM 1/4W	1
R2124	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2125	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2130	RO11T6273J	RC ERD-16TJ273T	27K OHM 1/6W	1
R2131	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
R2132	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2133	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2134	RO11T6393J	RC ERD-16TJ393T	39K OHM 1/6W	1
R2150	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2151	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2152	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R2153	RO11T4103J	RC ERD-25TJ103T	10K OHM 1/4W	1
R2154	RO11T6564J	RC ERD-16TJ564T	560K OHM 1/6W	1
R2155	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2160	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2161	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2214	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2220	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R2221	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2222	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2224	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R2225	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R2226	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R3001	RO11T6272J	RC ERD-16TJ272T	2.7K OHM 1/6W	1
R3002	RO11T6272J	RC ERD-16TJ272T	2.7K OHM 1/6W	1
R3004	RO11T6271J	RC ERD-16TJ271T	270 OHM 1/6W	1
R3005	RO11T6151J	RC ERD-16TJ151T	150 OHM 1/6W	1
R3006	RO11T6823J	RC ERD-16TJ823T	82K OHM 1/6W	1
R3008	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R3009	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R3010	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3012	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R3013	RO11T6271J	RC ERD-16TJ271T	270 OHM 1/6W	1
R3014	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R3016	RO11T2331J	RC ERD-50TJ331T	330 OHM 1/2W	1
R3019	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R3020	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R3021	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R3023	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R3025	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
R3026	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R3027	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R3028	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R3029	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R3030	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R3047	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R3048	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R3050	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R3052	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R3054	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R3055	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R3060	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R3061	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R3070	RO11T6821J	RC ERD-16TJ821T	820 OHM 1/6W	1
R3071	RO11T6274J	RC ERD-16TJ274T	270K OHM 1/6W	1
R3072	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
R3073	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R3075	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
R3078	RO11T6824J	RC ERD-16TJ824T	820K OHM 1/6W	1
R3082	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R3083	RO11T6182J	RC ERD-16TJ182T	1.8K OHM 1/6W	1
R3085	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3086	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R3087	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3089	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R3090	RO11T6181J	RC ERD-16TJ181T	180 OHM 1/6W	1
R3091	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R3092	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R3093	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R3095	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R3098	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R3099	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-RESISTORS-		
R3105	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R3106	RO11T6181J	RC ERD-16TJ181T	180 OHM 1/6W	1
R3108	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R3115	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R3116	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R3118	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R3120	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R3121	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3122	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R3126	RO11T6333J	RC ERD-16TJ333T	33K OHM 1/6W	1
R3127	RO11T6333J	RC ERD-16TJ333T	33K OHM 1/6W	1
R3128	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R3701	RO11T6182J	RC ERD-16TJ182T	1.8K OHM 1/6W	1
R3702	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R3704	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3705	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R3706	RO11T6393J	RC ERD-16TJ393T	39K OHM 1/6W	1
R3707	RO11T6333J	RC ERD-16TJ333T	33K OHM 1/6W	1
R3709	RO11T6183J	RC ERD-16TJ183T	18K OHM 1/6W	1
R3710	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R3711	RO11T4102J	RC ERD-25TJ102T	1K OHM 1/4W	1
R3712	RO11T6393J	RC ERD-16TJ393T	39K OHM 1/6W	1
R3718	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R3720	RO11T6152J	RC ERD-16TJ152T	1.5K OHM 1/6W	1
R4010	RO11T6563J	RC ERD-16TJ563T	56K OHM 1/6W	1
R4011	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4014	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R4015	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4016	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4019	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4020	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4021	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R4025	RO11T6683J	RC ERD-16TJ683T	68K OHM 1/6W	1
R4026	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R4027	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R4028	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4030	RO11T4103J	RC ERD-25TJ103T	10K OHM 1/4W	1
R4034	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R4035	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R4036	RO11T6390J	RC ERD-16TJ390T	39 OHM 1/6W	1
R4037	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R4038	RO11T6560J	RC ERD-16TJ560T	56 OHM 1/6W	1
R4049	RO11T6150J	RC ERD-16TJ150T	15 OHM 1/6W	1
R4050	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4053	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R4054	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R4057	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R4059	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R4060	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R4062	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R4063	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R4065	RO11T6331J	RC ERD-16TJ331T	330 OHM 1/6W	1
R4066	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R4069	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R4071	RO11T6221J	RC ERD-16TJ221T	220 OHM 1/6W	1
R4072	RO11T6154J	RC ERD-16TJ154T	150K OHM 1/6W	1
R4073	RO11T6154J	RC ERD-16TJ154T	150K OHM 1/6W	1
R4076	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R4078	RO11T6183J	RC ERD-16TJ183T	18K OHM 1/6W	1
R4080	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4081	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R4083	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R4084	RO11T6393J	RC ERD-16TJ393T	39K OHM 1/6W	1
R4086	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R4088	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R4093	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R4094	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4095	RO11T6152J	RC ERD-16TJ152T	1.5K OHM 1/6W	1
R4096	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R4098	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4099	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4103	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R4104	RO11T6151J	RC ERD-16TJ151T	150 OHM 1/6W	1
R4107	RO11T6391J	RC ERD-16TJ391T	390 OHM 1/6W	1
R4108	RO11T6821J	RC ERD-16TJ821T	820 OHM 1/6W	1
R4109	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4112	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4113	RO11T6121J	RC ERD-16TJ121T	120 OHM 1/6W	1
R4115	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4117	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R4118	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R4120	RO11T6331J	RC ERD-16TJ331T	330 OHM 1/6W	1
R4121	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4122	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4123	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R4124	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R4125	RO11T6564J	RC ERD-16TJ564T	560K OHM 1/6W	1
R4126	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R4127	RO11T6152J	RC ERD-16TJ152T	1.5K OHM 1/6W	1
R4128	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4129	RO11T65R1J	RC ERD-16TJ5R1T	5.1 OHM 1/6W	1
R4130	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4140	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R4142	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R4143	RO11T6392J	RC ERD-16TJ392T	3.9K OHM 1/6W	1
R4145	RO11T6394J	RC ERD-16TJ394T	390K OHM 1/6W	1
R4147	RO11T6184J	RC ERD-16TJ184T	180K OHM 1/6W	1
R4148	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4149	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R4151	RO11T6155J	RC ERD-16TJ155	1.5M OHM 1/6W	1
R4155	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4161	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R4162	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-RESISTORS-		
R4181	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R4183	RO11T6471J	RC ERD-16TJ471T	470 OHM 1/6W	1
R4190	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R4191	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4194	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R4196	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4197	RO11T6183J	RC ERD-16TJ183T	18K OHM 1/6W	1
R4199	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4200	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4202	RO11T6273J	RC ERD-16TJ273T	27K OHM 1/6W	1
R4204	RO11T6821J	RC ERD-16TJ821T	820 OHM 1/6W	1
R4205	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R4206	RO11T6224J	RC ERD-16TJ224T	220K OHM 1/6W	1
R4209	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R4210	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R4212	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R4213	RO11T6394J	RC ERD-16TJ394T	390K OHM 1/6W	1
R4216	RO11T6182J	RC ERD-16TJ182T	1.8K OHM 1/6W	1
R4219	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4220	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4223	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4225	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4226	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R4230	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4232	RO11T6470J	RC ERD-16TJ470T	47 OHM 1/6W	1
R4235	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R4236	RO11T6750J	RC ERD-16TJ750T	75 OHM 1/6W	1
R4237	RO11T2271J	RC ERD-50TJ271T	270 OHM 1/2W	1
R4238	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R4240	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R4242	RO11T6331J	RC ERD-16TJ331T	330 OHM 1/6W	1
R4270	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R4271	RO11T6750J	RC ERD-16TJ750T	75 OHM 1/6W	1
R4272	RO11T6121J	RC ERD-16TJ121T	120 OHM 1/6W	1
R4273	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R4274	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4275	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R4276	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R4277	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R5001	RO11T6472J	RC ERD-16TJ472T	4.7K OHM 1/6W	1
⚠ R5002	R615842R2J	R,FUSE ERQ-14AJ2R2P	2.2 OHM 1/4W	1
R5003	RO11T6470J	RC ERD-16TJ470T	47 OHM 1/6W	1
R5005	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R5009	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R5010	RO11T6123J	RC ERD-16TJ123T	12K OHM 1/6W	1
R5011	RO11T6334J	RC ERD-16TJ334T	330K OHM 1/6W	1
R5015	RO11T6221J	RC ERD-16TJ221T	220 OHM 1/6W	1
R5020	RO11T6104J	RC ERD-16TJ104T	100K OHM 1/6W	1
R5021	RO11T6682J	RC ERD-16TJ682T	6.8K OHM 1/6W	1
R5022	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R5023	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R5027	RO11T6683J	RC ERD-16TJ683T	68K OHM 1/6W	1
R5028	RO11T6273J	RC ERD-16TJ273T	27K OHM 1/6W	1
R5029	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R5031	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R5032	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R5033	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R5035	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R5036	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R5037	RO11T6154J	RC ERD-16TJ154T	150K OHM 1/6W	1
R5039	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R5040	RO11T6223J	RC ERD-16TJ223T	22K OHM 1/6W	1
R5041	RO11T6105J	RC ERD-16TJ105T	1M OHM 1/6W	1
R5044	RO11T6683J	RC ERD-16TJ683T	68K OHM 1/6W	1
R5045	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R5046	RO11T6681J	RC ERD-16TJ681T	680 OHM 1/6W	1
R5048	RO11T6333J	RC ERD-16TJ333T	33K OHM 1/6W	1
R5049	RO11T6562J	RC ERD-16TJ562T	5.6K OHM 1/6W	1
R5060	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R5061	RO11T6222J	RC ERD-16TJ222T	2.2K OHM 1/6W	1
R5062	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
R5063	RO11T6152J	RC ERD-16TJ152T	1.5K OHM 1/6W	1
⚠ R5064	R615846B0J	R,FUSE ERQ-14AJ680P	68 OHM 1/4W	1
R5066	RO11T4101J	RC ERD-25TJ101T	100 OHM 1/4W	1
R6001	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R6002	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R6003	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R6004	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R6005	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R6006	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R6007	RO11T6561J	RC ERD-16TJ561T	560 OHM 1/6W	1
⚠ R6008	R3118A182J	R,METAL OXIDE ERG-2ANJ182H	1.8K OHM 2 W	1
R6009	RO11T6101J	RC ERD-16TJ101T	100 OHM 1/6W	1
R6010	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R6011	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R6501	RO11T6332J	RC ERD-16TJ332T	3.3K OHM 1/6W	1
R6502	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R6503	RO11T6331J	RC ERD-16TJ331T	330 OHM 1/6W	1
R6504	RO11T6153J	RC ERD-16TJ153T	15K OHM 1/6W	1
R6505	RO11T6122J	RC ERD-16TJ122T	1.2K OHM 1/6W	1
R6506	RO11T6102J	RC ERD-16TJ102T	1K OHM 1/6W	1
R6507	RO11T6224J	RC ERD-16TJ224T	220K OHM 1/6W	1
R6508	RO11T6183J	RC ERD-16TJ183T	18K OHM 1/6W	1
R6509	RO11T6683J	RC ERD-16TJ683T	68K OHM 1/6W	1
R6510	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R6511	RO11T6103J	RC ERD-16TJ103T	10K OHM 1/6W	1
R6512	RO11T6124J	RC ERD-16TJ124T	120K OHM 1/6W	1
R6513	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
R6514	RO11T6473J	RC ERD-16TJ473T	47K OHM 1/6W	1
		-CAPACITORS-		
C301	P613D0223J	CMPL ECQV05223JZ	0.022 UF 50V	1
C302	P61300104J	CMPL ECQV1H104JZW	0.1 UF 50V	1
C303	CH4TB0412K	CC UP050 B101K	100 PF 50 V	1
C304	P613D0223J	CMPL ECQV05223JZ	0.022 UF 50V	1
C501	C01VF0404Z	CC ECKR1H473ZF	47000 PF 50V	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-CAPACITORS-		
C504	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C505	C01VF04Q4Z	CC ECKR1H473ZF	47000 PF 50V	1
C507	E011T3101M	CE ECEA1ES101B	100UF25V	1
C508	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C509	E011T5470M	CE ECEA1HS470B	47UF50V	1
C510	E01HT5470M	CE ECEA1HG470SB	47 UF 50V	1
C511	E011T2101M	CE ECEA1CS101B	100 UF 16 V	1
C512	E011T2101M	CE ECEA1CS101B	100 UF 16 V	1
C513	E011T3101M	CE ECEA1ES101B	100UF25V	1
C514	E011T3101M	CE ECEA1ES101B	100UF25V	1
C601	E01302100M	CE ECEA1CK100	10 UF 16 V	1
C602	E0120547OM	CE ECEA1HS5470	47 UF 50V	1
C603	E01305010M	CE ECEA1HK010	1 UF 50 V	1
C604	P613001O3J	CMPL ECQV05103JZ	0.01 UF 50V	1
C605	CH4TB04H2K	CC UP050 B221K	220 PF 50 V	1
C606	CH4TB04H2K	CC UP050 B221K	220 PF 50 V	1
C607	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C1001	E013T5010M	CE ECEA1HK010B	1 UF 50 V	1
C1002	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C1003	C01VB04H2K	CC ECKR1H221KB	220 PF 50 V	1
C1004	C01VB04H2K	CC ECKR1H221KB	220 PF 50 V	1
C1005	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C1006	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C1007	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C1008	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C1009	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C1023	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C1026	E011T53R3M	CE ECEA1HS3R3B	3.3UF50V	1
C1201	C01TB04H2K	CC ECKZ1H221KB	220 PF 50V B	1
C1202	C01TB04H2K	CC ECKZ1H221KB	220 PF 50V B	1
C1203	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C1204	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C1205	CH4TSL4N1J	CC UP050SL390J	39 PF 50V	1
C2001	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C2003	CH4TB0413K	CC UP050 B102K	1000 PF 50 V	1
C2004	E01IF6470M	CE ECEA1JU470	47 UF 63V	1
C2005	E02208101M	CE 100TWMS16100	100 UF 100V	1
C2006	E02208101M	CE 100TWMS16100	100 UF 100V	1
C2007	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2008	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2009	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2010	E01ET2100M	CE ECEA1CN100SB	10 UF 16V	1
C2011	CH4TB0413K	CC UP050 B102K	1000 PF 50 V	1
C2012	E011T2101M	CE ECEA1CS101B	100 UF 16 V	1
C2013	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2014	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2015	P613T0103J	CMPL ECQV1H103JZ3	0.01 UF 50 V	1
C2016	P613T0334J	CMPL ECQV05334JZ3	0.33 UF 50V	1
C2018	P613T0333J	CMPL ECQV05333JZ3	0.033 UF 50V	1
C2019	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2020	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C2021	P613T0103J	CMPL ECQV1H103JZ3	0.01 UF 50 V	1
C2022	P613T0154J	CMPL ECQV05154JZ3	0.15 UF 50V	1
C2023	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C2024	E01ET5010M	CE ECEA1HN010SB	1 UF 50 V	1
C2025	P613T0393J	CMPL ECQV05393JZ3	0.039 UF 50 V	1
C2026	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C2027	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2028	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2029	P111T0183K	CP ECQM1H183KZ3	0.018 UF 50V	1
C2030	P111T0183K	CP ECQM1H183KZ3	0.018 UF 50V	1
C2031	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2032	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2033	CH4TX02H3M	CC EP050 X222M	2200 PF 16V	1
C2034	P111T0332K	CP ECQM1H332KZ3	0.0033UF 50V	1
C2035	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2038	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2039	C01VF04H4Z	CC ECKR1H223ZF	22000 PF 50V	1
C2040	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C2041	CH4TB04W2K	CC UP050 B821K	820 PF 50 V	1
C2042	CH4TX02H3M	CC EP050 X222M	2200 PF 16V	1
C2043	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C2044	E011T5R47M	CE ECEA1HSR47B	0.47UF50V	1
C2045	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2046	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C2047	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2048	E013T5010M	CE ECEA1HK010B	1 UF 50 V	1
C2049	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2050	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2051	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2052	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2053	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2054	P613T0333J	CMPL ECQV05333JZ3	0.033 UF 50V	1
C2055	E01ET2100M	CE ECEA1CN100SB	10 UF 16V	1
C2056	CH4TX02H3M	CC EP050 X222M	2200 PF 16V	1
C2057	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C2058	P613T0333J	CMPL ECQV05333JZ3	0.033 UF 50V	1
C2059	E01ET2100M	CE ECEA1CN100SB	10 UF 16V	1
C2060	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2061	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C2062	CH4TX02H3M	CC EP050 X222M	2200 PF 16V	1
C2063	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C2070	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C2071	P613T0563J	CMPL ECQV05563JZ3	0.056 UF 50V	1
C2072	E01E02100M	CE ECEA1CN100S	10 UF 16V	1
C2073	P613002Z4J	CMPL ECQV05274JZ	0.27 UF 50V	1
C3001	E011T50R1M	CE ECEA1HS0R1B	0.1 UF 50 V	1
C3002	P111T0122K	CP ECQM1H122KZ3	0.0012UF 50V	1
C3003	CH4TB04S2K	CC UP050 B561K	560 PF 50 V	1
C3004	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C3005	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C3006	E011T1330M	CE ECEA1AS330B	33UF10V	1
C3008	P613T0333J	CMPL ECQV05333JZ3	0.033 UF 50V	1
C3009	P111T0563J	CP ECQM1H563JV3	0.056 UF 50V	1
C3010	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION			Q'TY
		-CAPACITORS-			
C3012	P613T0473J	CMPL EC@V05473JZ3	0.047 UF 50 V		1
C3013	E011T54R7M	CE ECEA1HS4R7B	4.7UF50V		1
C3014	CD1VCH4B1K	CC ECCR1H120KC	12 PF 50V		1
C3015	CD1VCH4H1K	CC ECCR1H220KC	22 PF 50V		1
C3016	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3017	C01VCH4W1K	CC ECCR1H820KC	82 PF 50V		1
C3019	E011T1470M	CE ECEA1AS470B	47UF10V		1
C3020	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C3022	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3023	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3024	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3025	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3026	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3029	CH4TSL421J	CC UP050SL200J	20 PF 50V		1
C3030	E011T1470M	CE ECEA1AS470B	47UF10V		1
C3031	P111T0223K	CP EC@M1H223KZ3	0.022 UF 50V		1
C3032	C01VB04U2K	CC ECKR1H681KB	680 PF 50V		1
C3033	C01VCH4W1K	CC ECCR1H820KC	82 PF 50V		1
C3035	C01VF0414Z	CC ECKR1H103ZF	10000 PF 50 V		1
C3036	C01VF0414Z	CC ECKR1H103ZF	10000 PF 50 V		1
C3037	P613T0223J	CMPL EC@V05223JZ3	0.022 UF 50 V		1
C3039	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3041	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3045	E011T54R7M	CE ECEA1HS4R7B	4.7UF50V		1
C3046	E011T5010M	CE ECEA1HS010B	1 UF 50 V		1
C3047	P111T0103K	CP EC@M1H103KZ3	0.01 UF 50V		1
C3049	E011T1221M	CE ECEA1AS221B	220 UF 10 V		1
C3050	P613T0473J	CMPL EC@V05473JZ	0.047 UF 50V		1
C3051	C01VF04Q4Z	CC ECKR1H473ZF	47000 PF 50V		1
C3052	P111T0822K	CP EC@M1H822KZ3	0.0082UF 50V		1
C3053	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V		1
C3055	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C3056	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3058	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3059	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3060	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3061	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3062	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3070	P111T0222K	CP EC@M1H222KZ3	0.0022UF 50V		1
C3071	P111T0222K	CP EC@M1H222KZ3	0.0022UF 50V		1
C3072	P111T0682K	CP EC@M1H682KZ3	0.0068UF 50V		1
C3701	E0110147OM	CE ECEA1AS470	47 UF 10 V		1
C3702	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C3703	E011T2330M	CE ECEA1CS330B	33 UF 16 V		1
C3705	P111T0152J	CP EC@M1H152JZ3	0.0015UF 50V		1
C3706	P111T0122J	CP EC@M1H122JZ3	0.0012UF 50V		1
C3708	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C3709	E011T2100M	CE ECEA1CS100B	10 UF 16 V		1
C3710	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4008	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4009	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4010	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C4012	CH4TSL4A1J	CC UP050SL110J	11 PF 50V		1
C4013	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4014	CH4TSL4Q1J	CC UP050SL470J	47 PF 50V		1
C4015	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4016	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4017	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4018	CH4TSL4Q1J	CC UP050SL470J	47 PF 50V		1
C4022	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4023	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4024	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4025	E011T5010M	CE ECEA1HS010B	1 UF 50 V		1
C4026	E01ET5010M	CE ECEA1HN010SB	1 UF 50 V		1
C4032	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C4035	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4036	E01ET5010M	CE ECEA1HN010SB	1 UF 50 V		1
C4038	E01ET5010M	CE ECEA1HN010SB	1 UF 50 V		1
C4039	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4042	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4043	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4045	C01VCH4E2J	CC ECCR1H151JC	150 PF 50V		1
C4046	C01VCH4E1K	CC ECCR1H150KC	15 PF 50V		1
C4047	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4049	E011T2470M	CE ECEA1CS470B	47 UF 16 V		1
C4050	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4053	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4054	C01VSL440C	CC ECCR1H040C	4 PF 50V		1
C4056	C01VCH470D	CC ECCR1H070DC	7 PF 50V		1
C4058	C01VCH4L1J	CC ECCR1H330JC	33 PF 50V		1
C4059	C01VSL4G2J	CC ECCR1H181J	180 PF 50V		1
C4060	C01VSL4Q2J	CC ECCR1H471J	470 PF 50V		1
C4062	E011T2100M	CE ECEA1CS100B	10 UF 16 V		1
C4067	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4068	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4069	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C4071	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C4072	CH4TSL4S1J	CC UP050SL560J	56 PF 50V		1
C4074	CH4TSL431J	CC UP050SL300J	30 PF 50V		1
C4076	CH4TY0214M	CC EP050 Y103M	10000 PF 16V		1
C4077	P111T0223K	CP EC@M1H223KZ3	0.022 UF 50V		1
C4078	E011T5R47M	CE ECEA1HSR47B	0.47UF50V		1
C4081	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4082	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4085	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4086	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4087	CH4TSL4K1J	CC UP050SL270J	27 PF 50V		1
C4089	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4092	CH4TB04B2K	CC UP050 B121K	120 PF 50 V		1
C4093	CH4TB04Q2K	CC UP050 B471K	470 PF 50 V		1
C4094	E011T1470M	CE ECEA1AS470B	47UF10V		1
C4095	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V	ZF	1
C4096	CH4TB04W2K	CC UP050 B821K	820 PF 50 V		1
C4097	P111T0472J	CP EC@M1H472JZ3	0.0047UF 50 V		1

PARTS LIST FOR MODEL TYPE VH-820RC

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-CAPACITORS-		
C4099	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C4101	CH4TB04B2K	CC UP050 B121K	120 PF 50 V	1
C4108	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4110	E01NT5R47M	CE ECEA1HKNR47B	0.47 UF 50V	1
C4111	P613T0104J	CMPL ECQV1H104JB3	0.1 UF 50 V	1
C4112	CH4TSL4S1J	CC UP050SL560J	56 PF 50V	1
C4113	CH4TB04H2K	CC UP050 B221K	220 PF 50 V	1
C4115	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C4118	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C4120	E011T0101M	CE ECEA0JS101B	100UF6.3V	1
C4121	CH4TB04H2K	CC UP050 B221K	220 PF 50 V	1
C4122	CH4TB04E2J	CC UP050 B151J	150 PF 50 V	1
C4127	CH4TB04W1K	CC UP050 B820K	82 PF 50 V	1
C4130	E011T54R7M	CE ECEA1HS4R7B	4.7UF50V	1
C4143	E011T54R7M	CE ECEA1HS4R7B	4.7UF50V	1
C4144	C01VSL4Q2J	CC ECCR1H471J	470 PF 50V	1
C4145	C01VCH4B2J	CC ECCR1H121JC	120 PF 50V	1
C4146	C01VSL4K2J	CC ECCR1H271J	270 PF 50V	1
C4148	E011T54R7M	CE ECEA1HS4R7B	4.7UF50V	1
C4149	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C4150	CH4TB04W1K	CC UP050 B820K	82 PF 50 V	1
C4152	E011T1221M	CE ECEA1AS221B	220 UF 10 V	1
C4153	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4158	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4160	E011T2220M	CE ECEA1CS220B	22UF16V	1
C4161	E011T53R3M	CE ECEA1HS3R3B	3.3UF50V	1
C4163	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4164	CH4TSL4Q1J	CC UP050SL470J	47 PF 50V	1
C4165	E01ET34R7M	CE ECEA1EN4R7SB	4.7 UF 25V	1
C4166	E011T5R22M	CE ECEA1HSR22B	0.22 UF 50 V	1
C4167	E011T1101M	CE ECEA1AS101B	100UF10V	1
C4168	CH4TSL4N1J	CC UP050SL390J	39 PF 50V	1
C4177	E011T1470M	CE ECEA1AS470B	47UF10V	1
C4178	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4180	E01201102M	CE ECEA1ASS102	1000 UF 10V	1
C4190	E011T1101M	CE ECEA1AS101B	100UF10V	1
C4192	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C4193	P613T0153J	CMPL ECQV05153JZ3	0.015 UF 50V	1
C4194	P613T0153J	CMPL ECQV05153JZ3	0.015 UF 50V	1
C4195	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C4196	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C4213	E011T1101M	CE ECEA1AS101B	100UF10V	1
C4214	E012T2470M	CE ECEA1CSS470B	47 UF 16 V	1
C4215	C010SL4G1J	CC ECCF1H180J	18 PF 50V SL	1
C5001	E011T2470M	CE ECEA1CS470B	47 UF 16 V	1
C5002	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C5003	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C5005	P34102223J	CPP DTW-223J-200V	0.022 UF 200V	1
C5006	C02TB04U2K	CC RHE40SJYB681K	680 PF B	1
C5008	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C5020	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C5021	P111T0103K	CP ECQM1H103KZ3	0.01 UF 50V	1
C5022	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C5023	CH4TB04S2K	CC UP050 B561K	560 PF 50 V	1
C5025	E011T2330M	CE ECEA1CS330B	33 UF 16 V	1
C5026	E011T2330M	CE ECEA1CS330B	33 UF 16 V	1
C5027	E012T2470M	CE ECEA1CSS470B	47 UF 16 V	1
C5028	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C5030	E011T2220M	CE ECEA1CS220B	22UF16V	1
C5032	P613T0333J	CMPL ECQV05333JZ3	0.033 UF 50V	1
C5036	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C5037	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C5038	P613T0102J	CMPL ECQV1H102JZ3	0.001 UF 50V	1
C5039	E011T2101M	CE ECEA1CS101B	100 UF 16 V	1
C5040	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C5041	E011T2330M	CE ECEA1CS330B	33 UF 16 V	1
C5043	E012T2470M	CE ECEA1CSS470B	47 UF 16 V	1
C5044	E011T2330M	CE ECEA1CS330B	33 UF 16 V	1
C5045	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C5048	P613T0273J	CMPL ECQV05273JZ3	0.027 UF 50V	1
C5050	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C5051	P613T0102J	CMPL ECQV1H102JZ3	0.001 UF 50V	1
C5052	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
C5053	E012T2470M	CE ECEA1CSS470B	47 UF 16 V	1
C5054	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C5056	E013T2100M	CE ECEA1CK100B	10 UF 16 V	1
C6002	P613T0473J	CMPL ECQV05473JZ3	0.047 UF 50 V	1
C6003	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C6004	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C6005	E012T2470M	CE ECEA1CSS470B	47 UF 16 V	1
C6006	E01201471M	CE ECEA1ASS471	470 UF 10V	1
C6008	C01VF0414Z	CC ECKR1H103ZF	10000 PF 50 V	1
C6009	E011T52R2M	CE ECEA1HS2R2B	2.2 UF 50 V	1
C6010	E011T2221M	CE ECEA1CS221B	220 UF 16 V	1
C6011	E011T2220M	CE ECEA1CS220B	22UF16V	1
C6012	CH4TY0214M	CC EP050 Y103M	10000 PF 16V	1
C6013	CH1TF03H4Z	CC ECB-T1E223ZF5	22000 PF 25 V ZF	1
C6014	E011T2221M	CE ECEA1CS221B	220 UF 16 V	1
C6501	C01VB0413K	CC ECKR1H102KB	1000 PF 50V	1
C6502	C01VB04L2K	CC ECKR1H331KB	330 PF 50V	1
C6503	E011T5R47M	CE ECEA1HSR47B	0.47UF50V	1
C6504	C01VB0413K	CC ECKR1H102KB	1000 PF 50V	1
C6505	E011T5010M	CE ECEA1HS010B	1 UF 50 V	1
C6507	E011T2100M	CE ECEA1CS100B	10 UF 16 V	1
		-SEMICONDUCTORS-		
D301	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D302	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D303	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D304	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D305	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D306	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D307	D13TGMA010	DIODE,SILICON	GMA-01-BT	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-SEMICONDUCTORS-		
D308	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D309	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D310	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D311	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D312	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D313	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D314	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D315	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D316	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D317	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D318	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D319	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D320	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D321	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D322	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D323	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D324	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D325	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D326	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D327	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D328	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D329	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D330	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D331	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D332	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D333	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D334	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D335	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D336	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D337	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D338	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D339	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D340	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D341	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D342	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D343	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D344	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D345	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D346	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D347	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D348	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D349	0021550010	LED	TLG113A	1
D350	0021550010	LED	TLG113A	1
D351	0021550010	LED	TLG113A	1
D352	0021550010	LED	TLG113A	1
D353	0021550010	LED	TLG113A	1
D354	0021550010	LED	TLG113A	1
D355	0021550010	LED	TLG113A	1
D356	0021550010	LED	TLG113A	1
D357	0021550010	LED	TLG113A	1
D358	0021550010	LED	TLG113A	1
D359	0021550010	LED	TLG113A	1
D360	0021550010	LED	TLG113A	1
D361	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D505	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D506	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D517	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D518	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D601	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D602	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D603	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D604	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D605	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D606	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D607	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D608	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D609	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D611	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D612	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D613	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D614	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D615	D92006R8B2	DIODE ZENER	RD6.8EB 2	1
D616	D92005R1B2	DIODE ZENER	RD5.1EB 2	1
D617	D940A5R6J1	DIODE,ZENER	HZS5R6JB1	1
D618	0021520020	LED	TLS113	1
D621	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D622	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D623	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D624	0021520020	LED	TLS113	1
D625	0021550010	LED	TLG113A	1
D626	0021530010	LED	TLO-113A	1
D627	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D628	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D629	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D630	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D631	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1001	D17T024720	DIODE,SILICON	1S2472T-77	1
D1002	D17T024720	DIODE,SILICON	1S2472T-77	1
D1003	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1004	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1005	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1006	D17T024720	DIODE,SILICON	1S2472T-77	1
D1007	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1008	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1009	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1010	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1011	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1012	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1013	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1014	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1015	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1021	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D1022	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D1023	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1024	D13TGMA010	DIODE,SILICON	GMA-01-BT	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-SEMICONDUCTORS-		
D1025	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1026	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1027	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1028	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1050	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1201	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1202	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1203	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1204	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1205	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D1207	0021520020	LED	TLS113	1
D1211	0021530010	LED	TLO-113A	1
D1212	0021520020	LED	TLS113	1
D1214	0021520020	LED	TLS113	1
D1219	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2002	D920A5R6J3	DIODE,ZENER	RD5R6JSB3	1
D2003	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2004	D28F010D20	DIODE,RECTIFIER	10D-2 FC	1
D2005	D9200300B1	DIODE ZENER	RD30EB 1	1
D2006	D28F010D20	DIODE,RECTIFIER	10D-2 FC	1
D2007	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D2008	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D2009	D23TDSF10B	DIODE,RECTIFIER	DSF-10B-BT	1
D2010	D93004300Y	DIODE ZENER	GZA43 Y	1
D2011	D11TMA27TB	DIODE,SILICON	MA27TB-T	1
D2014	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2015	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2017	D17T024720	DIODE,SILICON	1S2472T-77	1
D2018	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2019	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2020	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2021	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2022	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2023	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2026	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2027	D940A7R501	DIODE,ZENER	HZS7.5JB 1	1
D2028	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2029	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2030	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2032	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2033	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2034	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2050	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2051	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D2052	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3002	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3003	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3005	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3012	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3701	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D3702	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4002	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4005	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4020	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4027	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4028	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4029	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4030	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4031	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D4032	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D5004	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D5005	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D5007	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D5008	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D6001	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
D6501	D13TGMA010	DIODE,SILICON	GMA-01-BT	1
IC301	I02D0363CA	INTEGRATED CIRCUIT	UPC1363CA	1
IC601	I34DT0001B	INTEGRATED CIRCUIT	OEC0001B	1
IC602	I2M3TT60X0	INTEGRATED CIRCUIT	L@T-60X	1
IC1001	I34D500040	INTEGRATED,CIRCUIT	OEC0004B	1
IC1002	I05D121050	INTEGRATED CIRCUIT	TD62105P	1
IC1003	I2MS120030	INTEGRATED,CIRCUIT	OEC2003	1
IC1004	I07S062390	INTEGRATED CIRCUIT	BA6239	1
IC1005	I2MS520040	INTEGRATED,CIRCUIT	OEC2004	1
IC1006	I02D1PA530	INTEGRATED CIRCUIT	UPA53C	1
IC1201	I34D500030	INTEGRATED CIRCUIT	OEC0003	1
IC2001	I95D460010	INTEGRATED CIRCUIT	OEC6001	1
IC2002	I05D075358	INTEGRATED CIRCUIT	TA75358P	1
IC2003	I05D075358	INTEGRATED CIRCUIT	TA75358P	1
IC2004	I07D46302A	INTEGRATED CIRCUIT	BA6302A	1
IC2005	I2MS0001L0	INTEGRATED CIRCUIT	OEC2001L	1
IC3001	I03D370350	INTEGRTED,CIRCUIT	LA7035	1
IC3003	I07T563090	INTEGRATED,CIRCUIT	BAL6309	1
IC3701	I07D070070	INTEGRATED CIRCUIT	BA7007L	1
IC4001	I03D370340	INTEGRATED CIRCUIT	LA7034	1
IC4002	I03D370310	INTEGRATED,CIRCUIT	LA7031	1
IC5001	I07T051150	INTEGRATED CIRCUIT	BA5115	1
IC5002	I05S77361A	INTEGRATED CIRCUIT	TA7361AP	1
IC5003	I07S370010	INTEGRATED CIRCUIT	BA7001	1
IC6001	I02990574J	INTEGRATED CIRCUIT	UPC574J	1
IC6501	I03S072100	INTEGRATED CIRCUIT	LA7210	1
Q301	TA300608K0	TRANSISTOR SILICON	2SA608KNP	1
Q302	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q303	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q304	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q601	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q602	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q603	TA300608K0	TRANSISTOR SILICON	2SA608KNP	1
Q604	TC300536K0	TRANSISTER SILICON	2SC536KNP	1
Q605	TA300608K0	TRANSISTOR SILICON	2SA608KNP	1
Q1001	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1

PARTS LIST FOR MODEL TYPE VH-820RC

****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-SEMICONDUCTORS-		
Q1002	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1003	TD3T011110	TRANSISTOR SILICON	2SD1111-T	1
Q1004	TD3T011110	TRANSISTOR SILICON	2SD1111-T	1
Q1010	TA3T012530	TRANSISTOR SILICON	2SA1253-T	1
Q1011	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1012	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1013	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1014	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1016	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q1017	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q1021	TA3T012530	TRANSISTOR SILICON	2SA1253-T	1
Q1025	TN3TC03001	COMPOUND,TRANSISTOR	2SC3400-T	1
Q1201	TC3T0536K0	TRANSISTOR,SILICON	2SC536KNP-T	1
Q1202	TC3T0536K0	TRANSISTOR,SILICON	2SC536KNP-T	1
Q1203	TA3T0608K0	TRANSISTOR SILICON	2SA608KNP-T	1
Q1204	TA3T0608K0	TRANSISTOR SILICON	2SA608KNP-T	1
Q1205	TA3T0608K0	TRANSISTOR SILICON	2SA608KNP-T	1
Q1206	TA3T0608K0	TRANSISTOR SILICON	2SA608KNP-T	1
Q2005	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2006	TD30013480	TRANSISTER SILICON	2SD1348	1
Q2008	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2009	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2010	TC3T022740	TRANSISTOR,SILICON	2SC2274	1
Q2011	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2015	TC30536S0	TRANSISTOR SILICON	2SC536SP	1
Q2016	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2017	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q2018	TD30013480	TRANSISTER SILICON	2SD1348	1
Q2019	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q2020	TD3T012460	TRANSISTOR SILICON	2SD1246-T	1
Q2021	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
⚠ Q2022	TD3T012460	TRANSISTOR SILICON	2SD1246-T	1
Q2023	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2024	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2025	TC3T005360	TRANSISTER SILICON	2SC536NP-T	1
Q2026	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2030	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2050	TN3TC03001	COMPOUND,TRANSISTOR	2SC3400-T	1
Q2100	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q2101	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q3001	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3003	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3005	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3006	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3008	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3009	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3010	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3701	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3704	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q3705	TN3TC03001	COMPOUND,TRANSISTOR	2SC3400-T	1
Q4001	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4002	TN3TC03001	COMPOUND,TRANSISTOR	2SC3400-T	1
Q4003	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4004	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4005	TC3T2274K0	TRANSISTER SILICON	2SC2274K-T	1
Q4006	TD3T007340	TRANSISTOR SILICON	2SD734-T	1
Q4008	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4009	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q4010	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4011	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4012	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4013	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
Q4014	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4015	TC3T2274K0	TRANSISTER SILICON	2SC2274K-T	1
Q4016	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4019	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4020	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4023	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4024	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q4025	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q5001	TC10013170	TRANSISTOR,SILICON	2SC1317	1
Q5002	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q6001	TB3T006980	TRANSISTOR,SILICON	2SB698-T	1
Q6002	TB3T006980	TRANSISTOR,SILICON	2SB698-T	1
Q6003	TB3T006980	TRANSISTOR,SILICON	2SB698-T	1
Q6004	TN3TC03001	COMPOUND,TRANSISTOR	2SC3400-T	1
Q6005	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q6501	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q6502	TC3T0536S0	TRANSISTOR SILICON	2SC536SP-AC	1
Q6503	TA3T0608S0	TRANSISTOR SILICON	2SA608SP-AC	1
		- COILS & TRANSFORMERS-		
L3001	021673101K	COIL	EL0606RA-101K 100 UH	1
L3002	021673101K	COIL	EL0606RA-101K 100 UH	1
L3003	021JA6150K	COIL	LAL02T150K-T 15 UH TA	1
L3005	021JA6390K	COIL	LAL02T390K-T 39 UH TA	1
L3007	021JA6101K	COIL	LAL02T101K-T 100 UH TA	1
L3009	0216798Z2J	COIL	EL0909RR-822J 8.2 MH	1
L3701	021673101K	COIL	EL0606RA-101K 100 UH	1
L3702	021804123J	COIL	RX9P-123J-80 12 MH	1
L3704	021JA6560K	COIL	LAL02T560K-T 56 UH TA	1
L4002	021JA6101K	COIL	LAL02T101K-T 100 UH TA	1
L4003	021JA6270K	COIL	LAL02T270K-T 27 UH TA	1
L4004	021JA6220K	COIL	LAL02T220K-T 22 UH TA	1
L4006	021673101K	COIL	EL0606RA-101K 100 UH	1
L4007	021JA6221K	COIL	LAL02T221K-T 220 UH TA	1
L4010	021673101K	COIL	EL0606RA-101K 100 UH	1
L4011	021JA6390K	COIL	LAL02T390K-T 39 UH TA	1
L4013	021JA6101K	COIL	LAL02T101K-T 100 UH TA	1
L4014	021JA6390K	COIL	LAL02T390K-T 39 UH TA	1
L4020	021673101K	COIL	EL0606RA-101K 100 UH	1
L4021	021JA6101K	COIL	LAL02T101K-T 100 UH TA	1
L4022	021JA6100K	COIL	LAL02T100K-T 10 UH TA	1
L4023	021JA6560K	COIL	LAL02T560K-T 56 UH TA	1
L4025	021JA6151K	COIL	LAL02T151K-T 150 UH TA	1
L4026	021JA6101K	COIL	LAL02T101K-T 100 UH TA	1

PARTS LIST FOR MODEL TYPE VH-820RC

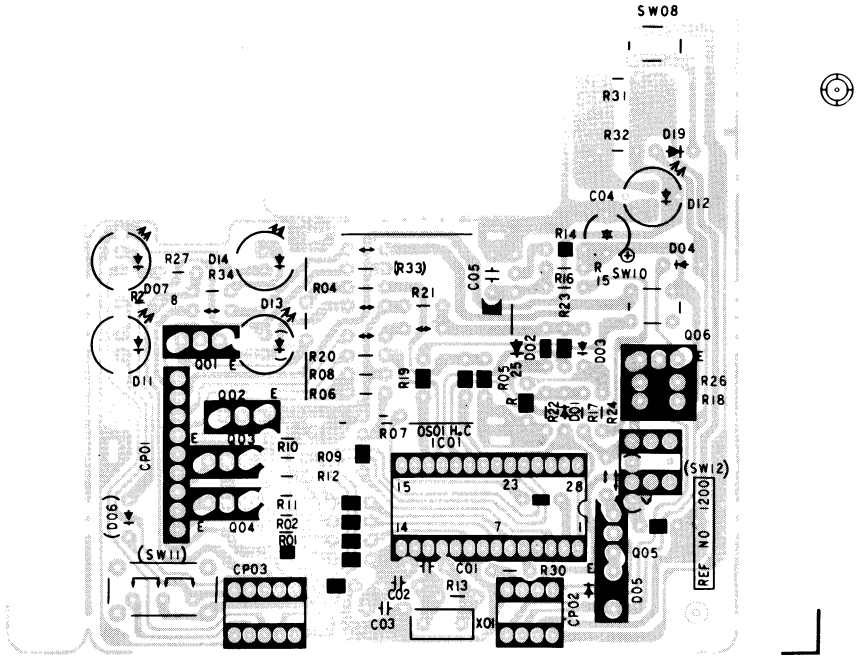
****

REF.NO	PARTS.NO	DESCRIPTION		Q'TY
		-COILS & TRANSFORMERS-		
L4028	021JA6101K	COIL LALO2T101K-T	100 UH TA	1
L4030	021JA6151K	COIL LALO2T151K-T	150 UH TA	1
L4040	021673101K	COIL ELO606RA-101K	100 UH	1
L4044	021JA6470K	COIL LALO2T470K-T	47 UH TA	1
L4046	021JA6330K	COIL LALO2T330K-T	33 UH TA	1
L4050	021673101K	COIL ELO606RA-101K	100 UH	1
L5001	021673102K	COIL ELO606RA-102K	1000 UH	1
L5002	021679682K	COIL ELO909RR-682K	6.8 MH	1
L5003	021673101K	COIL ELO606RA-101K	100 UH	1
L6001	021673101K	COIL ELO606RA-101K	100 UH	1
T5001	031D120018	COIL,BIAS OSC	1D12001	1
		-JACK & CONNECTORS-		
J4001	0602221002	JACK;RCA 2.5	HSJ0465-01-020	1
J4002	0632000007	JACK PLATE	JXT0669-01-010	1
		-SWITCHES-		
SW301	0504101006	SWITCH TACT	EVQ-QS205K	1
SW302	0504101006	SWITCH TACT	EVQ-QS205K	1
SW303	0504101006	SWITCH TACT	EVQ-QS205K	1
SW304	0504101006	SWITCH TACT	EVQ-QS205K	1
SW305	0504101006	SWITCH TACT	EVQ-QS205K	1
SW306	0504101006	SWITCH TACT	EVQ-QS205K	1
SW307	0504101006	SWITCH TACT	EVQ-QS205K	1
SW308	0504101006	SWITCH TACT	EVQ-QS205K	1
SW309	0504101006	SWITCH TACT	EVQ-QS205K	1
SW310	0504101006	SWITCH TACT	EVQ-QS205K	1
SW311	0504101006	SWITCH TACT	EVQ-QS205K	1
SW312	0504101006	SWITCH TACT	EVQ-QS205K	1
SW601	0510322002	SWITCH SLID	HSW0932-01-040	1
SW602	0510331007	SWITCH SLIDE	HSW0931-01-030	1
SW603	0504101006	SWITCH TACT	EVQ-QS205K	1
SW604	0504101006	SWITCH TACT	EVQ-QS205K	1
SW605	0504101006	SWITCH TACT	EVQ-QS205K	1
SW606	0504101006	SWITCH TACT	EVQ-QS205K	1
SW607	0504101006	SWITCH TACT	EVQ-QS205K	1
SW608	0504101006	SWITCH TACT	EVQ-QS205K	1
SW609	0504101006	SWITCH TACT	EVQ-QS205K	1
SW610	0504101006	SWITCH TACT	EVQ-QS205K	1
SW611	0504101006	SWITCH TACT	EVQ-QS205K	1
SW612	0504101006	SWITCH TACT	EVQ-QS205K	1
SW613	0504101006	SWITCH TACT	EVQ-QS205K	1
SW614	0504101006	SWITCH TACT	EVQ-QS205K	1
SW615	0504101006	SWITCH TACT	EVQ-QS205K	1
SW616	0504101006	SWITCH TACT	EVQ-QS205K	1
SW629	0510321002	SWITCH SLID	HSW0932-01-030	1
SW630	0510321002	SWITCH SLID	HSW0932-01-030	1
SW1208	0504101006	SWITCH TACT	EVQ-QS205K	1
SW1210	0504101006	SWITCH TACT	EVQ-QS205K	1
SW4001	0510321003	SWITCH SLIDE	HRS0805-01-020	1
		-SEMI-FIXED RESISTORS-		
VR301	V411124B03	VOLUME;POTENTION	EWE-LE2810B24	1
VR601	V014025B01	VOLUME;ROTALY	EVU-F3AM20B25	1
VR2001	V1263H5B01	VOLUME SEMI FIXED	H0615C121-220KB	1
VR2002	V1262H5B01	VOLUME SEMI FIXED	H0614C121-220KB	1
VR2003	V1262H5B01	VOLUME SEMI FIXED	H0614C121-220KB	1
VR2004	V1262H5B01	VOLUME SEMI FIXED	H0614C121-220KB	1
VR2005	V1263E4B01	VOLUME SEMI FIXED	H0615C114-15KB	1
VR2006	V1263L4B01	VOLUME SEMI FIXED	H0615C116-33KB	1
VR2007	V1262H3B01	VOLUME SEMI FIXED	H0614C109-2.2KB	1
VR3002	V126313B01	VOLUME SEMI FIXED	H0615C107-1KB	1
VR3003	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR3004	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR3005	V1263Q3B01	VOLUME SEMI FIXED	H0615C111-4.7KB	1
VR3701	V126313B01	VOLUME SEMI FIXED	H0615C107-1KB	1
VR4001	V126313B01	VOLUME SEMI FIXED	H0615C107-1KB	1
VR4002	V1263U3B01	VOLUME SEMI FIXED	H0615C112-6.8KB	1
VR4005	V1263H3B01	VOLUME SEMI FIXED	H0615C109-2.2KB	1
VR4006	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR4007	V1263Q3B01	VOLUME SEMI FIXED	H0615C111-4.7KB	1
VR4008	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR4015	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR4016	V1263Q2B01	VOLUME SEMI FIXED	H0615C105-470B	1
VR4017	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
VR5001	V1263Q5B02	VOLUME SEMI FIXED	H0621A023-470KB	1
VR5002	V126314B01	VOLUME SEMI FIXED	H0615C113-10KB	1
		-P.C. BOARDS-		
PCB101	13VC0041C1	PCB	VC0041C	1
PCB121	13VC0036C1	PCB	VC0036C	1
PCB301	13VV0023C1	PCB	VV0023C	1
PCB501	13VP0020B1	PCB	VP0020B	1
PCB601	13VE0078C1	PCB	VE0078C	1
		-MISCELLANEOUS-		
BT1201	1412003001	BATTERY;MANGAN	UM-3 MAXELL-200	2
CD1001	069R280049	CONNECTOR PCB SIDE	5532-08A	1
CD1002	069R2A0049	CONNECTOR PCB SIDE	5532-10A	1
CD1003	12270A0601	CORD FLAT	270A0601	1
CD1004	06831B006A	CORD EIS CONNECTOR	831B006A	1
CD1005	069R210049	CONNECTOR PCB SIDE	5532-18A	1
CD1006	069R260049	CONNECTOR PCB SIDE	5532-06A	1
CD1007	12270A0601	CORD FLAT	270A0601	1
CD1009	068319014A	CORD EIS CONNECTOR	8319014A	1
CD1010	06831B005A	CORD EIS CONNECTOR	831B005A	1
CD1101	068301045A	CORD CONNECTOR	8301045A	1
CD1106	068301047A	CORD CONNECTOR	8301047A	1
CD1107	068301057A	CORD CONNECTOR	8301057A	1
CD1108	068301058A	CORD CONNECTOR	8301058A	1
CD1201	068319015A	CORD EIS CONNECTOR	8319015A	1
CD2001	068317066A	CORD EIS CONNECTOR	8317066A	1
CD2003	068318024A	CORD EIS CONNECTOR	8318024A	1
CD2004	06831F002A	CORD EIS CONNECTOR	831F002A	1
CD2005	068312109A	CORD EIS CONNECTOR	8312109A	1
CD2006	1227030601	CORD;JUMPER	27030601	1
CD4004	069R280049	CONNECTOR PCB SIDE	5532-08A	1
CD4005	069R280049	CONNECTOR PCB SIDE	5532-08A	1

PARTS LIST FOR MODEL TYPE VH-820RC

REF.NO	PARTS.NO	DESCRIPTION			Q'TY
		-MISCELLANEOUS-			
CD6001	0680L07002	CABLE,PAL	DPP-DSP3CL		1
CD6006	0683H32001	CORD COAXIAL	83H32001		1
CF3701	10114R1703	FILTER CERAMIC	EFCS4R17MS4A		1
CP1005	069R2I0029	CONNECTOR PCB SIDE	5533-18APB		1
CP1006	069R260029	CONNECTOR PCB SIDE	5533-06APB		1
CP1007	069R7A0029	CONNECTOR PCB SIDE	5597-10CPB		1
CP1201	0694190060	CONNECTOR PCB SIDE	172681-9	UX-V	1
CP1202	069R280029	CONNECTOR PCB SIDE	5533-08APB		1
CP1203	069R2A0029	CONNECTOR PCB SIDE	5533-10APB		1
CP2002	0694130060	CONNECTOR PCB SIDE	172681-3	UX-V	1
CP2006	069R7A0019	CONNECTOR PCB SIDE	5597-10APB		1
CP4001	0694160019	CONNECTOR PCB SIDE	171825-6		1
CP4002	069R7A0029	CONNECTOR PCB SIDE	5597-10CPB		1
CP4003	069R7A0029	CONNECTOR PCB SIDE	5597-10CPB		1
CP4004	069R280029	CONNECTOR PCB SIDE	5533-08APB		1
CP4005	069R280029	CONNECTOR PCB SIDE	5533-08APB		1
CP4009	0694120066	CONNECTOR PCB SIDE	2-172681-2	UX-V	1
CP5001	0694150060	CONNECTOR PCB SIDE	172681-5	UX-V	1
CP5002	0694120060	CONNECTOR PCB SIDE	172681-2		1
DL3001	104A24R432	DELAY LINE GLASS	ADL-SE1844R-B05		1
DL4001	104A14R435	DELAY LINE GLASS	ADL-CP1245R-A03		1
DL4002	103802R901	DELAY	3802R901		1
DL4003	103802R102	DELAY	3802R102		1
F2001	084700R802	IC PROTECTOR	ICP-N20		1
OS1201	0771005001	REMOTE RECIVER	EUR3690		1
PF3001	1147B50603	FILTER BAND PASS	47B50603		1
PF3002	1147B44604	FILTER,BAND PASS	47B44604		1
PF3003	1147L15604	FILTER LOW PASS	47L15604		1
PF3701	0326220011	COIL TRAP	2622001		1
PF4001	1147656601	FILTER TRAP PASS	47656601		1
PF4002	1147L11602	FILTER,LOW PASS	47L11602		1
PF4003	1147H14603	FILTER HIGH PASS	47H14603		1
PF4004	1147L33602	FILTER LOW PASS	47L33602		1
PF5001	032623001A	COIL,TRAP	2623001		1
RY1001	0560722203	RELAY	G5A-237P DC12V		1
TC3001	0100112001	C,CERAMIC TRIMER	ECR-HA020D11		1
TM1201	0761053004	TRANSMITTER	EUR53302		1
TP2001	0694150080	CONNECTOR PCB SIDE	87348-5		1
TP3001	126V000002	TERMINAL PIN	IPS-2034		1
TP3002	126V000002	TERMINAL PIN	IPS-2034		1
TP3003	126V000002	TERMINAL PIN	IPS-2034		1
TP3004	126V000002	TERMINAL PIN	IPS-2034		1
TP3006	126V000002	TERMINAL PIN	IPS-2034		1
TP4005	126V000002	TERMINAL PIN	IPS-2034		1
TU6002	0158201001	IF BLOCK	FE-FB-0132		1
TU6003	0151101002	RF-CONVERTER	ENC87854		1
V601	096280R302	TUBE,FLUORSCENT DSPLAY	FIP8KM8A		1
W311	12203T0501	JUMPER IN PCB	203T0501		31
W312	12203T1001	JUMPER IN PCB	203T1001		30
W313	12203T0001	JUMPER IN PCB	203T0001		42
W501	12203T0501	JUMPER IN PCB	203T0501		11
W502	12203T1001	JUMPER IN PCB	203T1001		18
W1201	12203T0501	JUMPER IN PCB	203T0501		18
W4001	12203T0501	JUMPER IN PCB	203T0501		65
W4003	12203T1001	JUMPER IN PCB	203T1001		34
W4005	12203T0001	JUMPER IN PCB	203T0001		56
X601	1003R40001	CERAMIC,OSCILATOR	KBR400BTL		1
X1001	1003R40002	CERAMIC OSCILATOR	KBR400B		1
X1201	1003R40002	CERAMIC OSCILATOR	KBR400B		1
X3001	10064R4304	CRYSTAL	DS-M 4.435572MHZ		1
X3002	10064R4303	CRYSTAL	DS-M 4.433619MHZ		1
X6501	1003R50001	CERAMIC OSCILATOR	KBR-500AH2		1

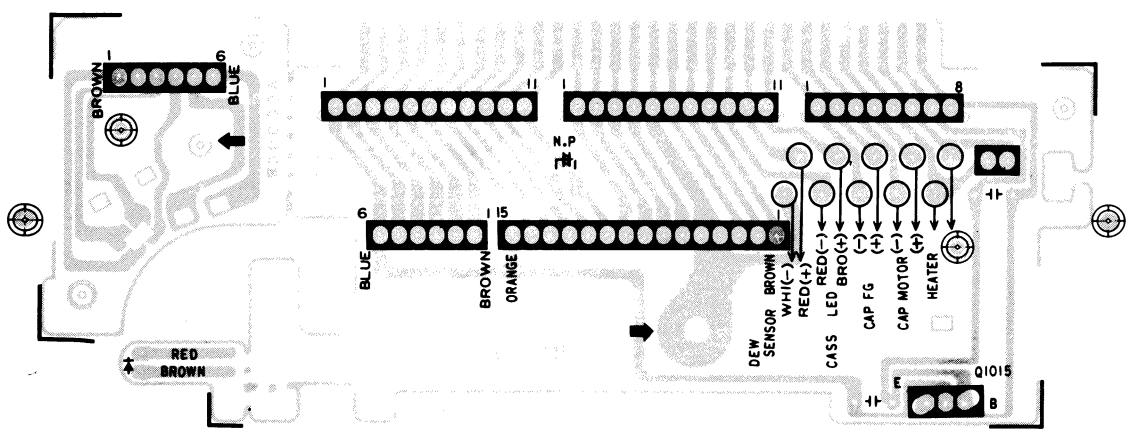
OPERATION 2 P.C. BOARD



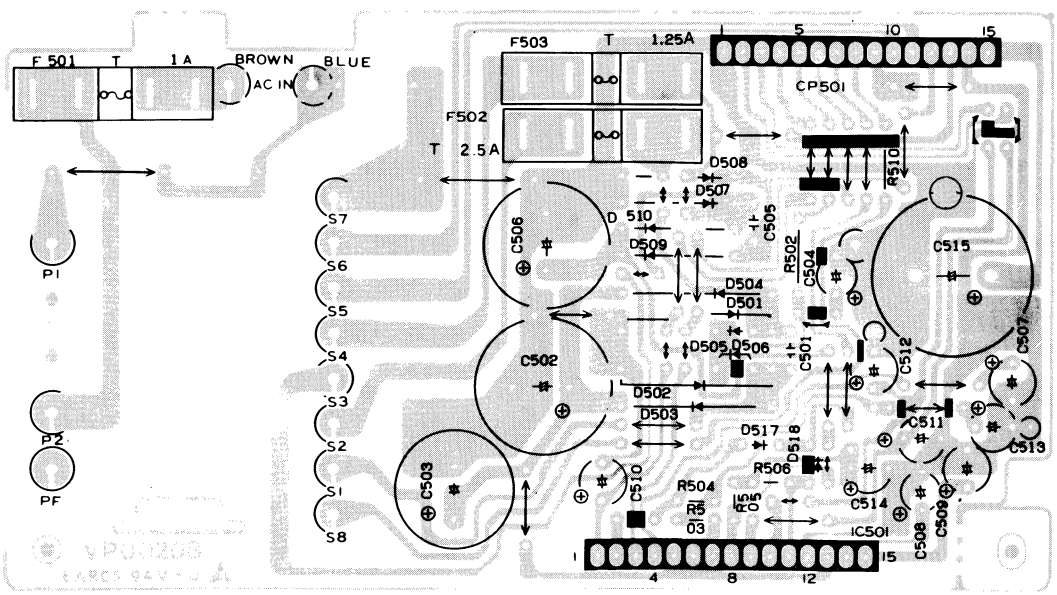
SYMBLE LIST

RESISTOR	SEMI-FIXED RESISTOR	CAPACITOR	JUMPER

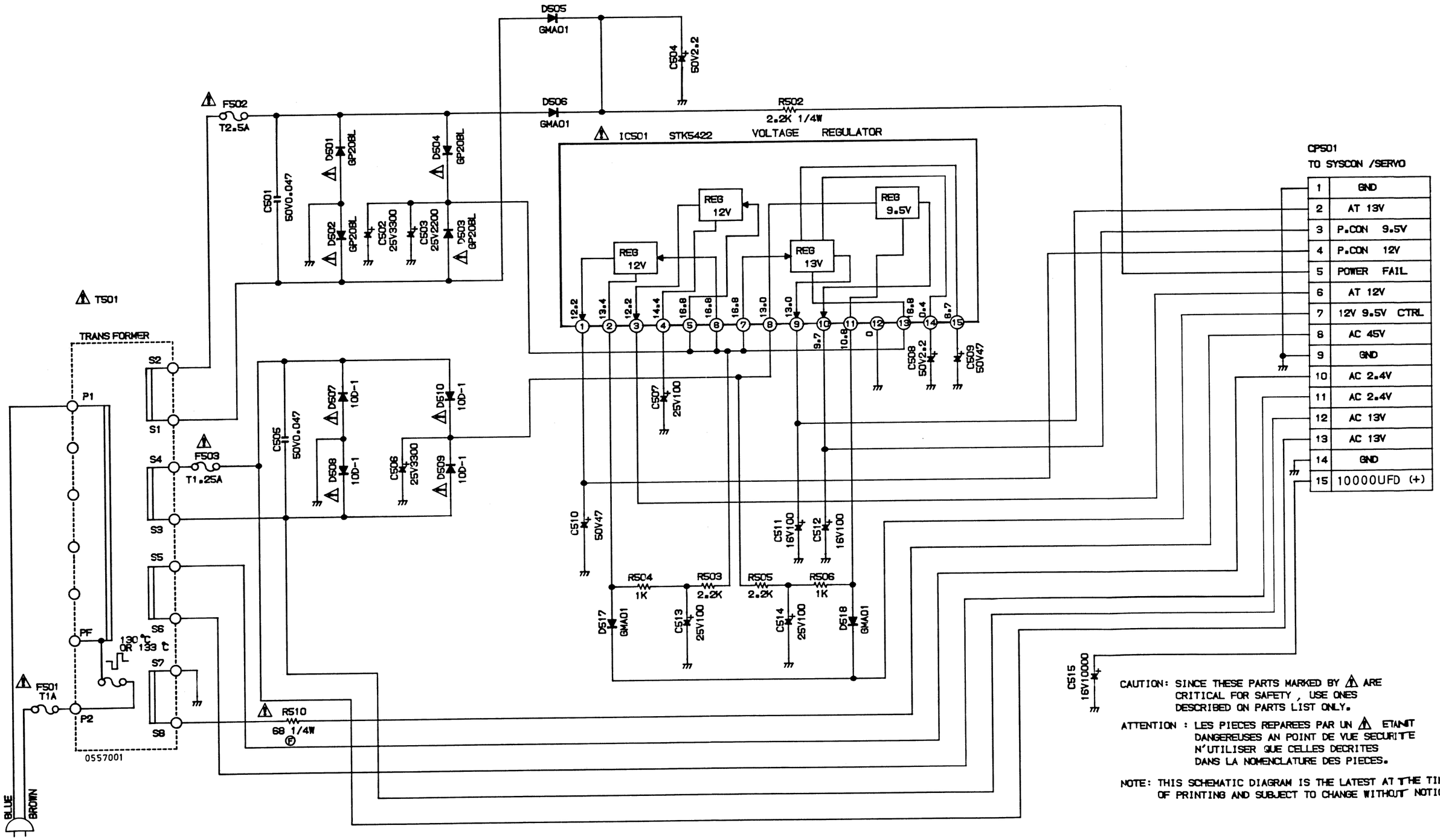
DECK P.C. BOARD



POWER SUPPLY P.C.BOARD



POWER SUPPLY SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY , USE ONES DESCRIBED ON PARTS LIST ONLY.

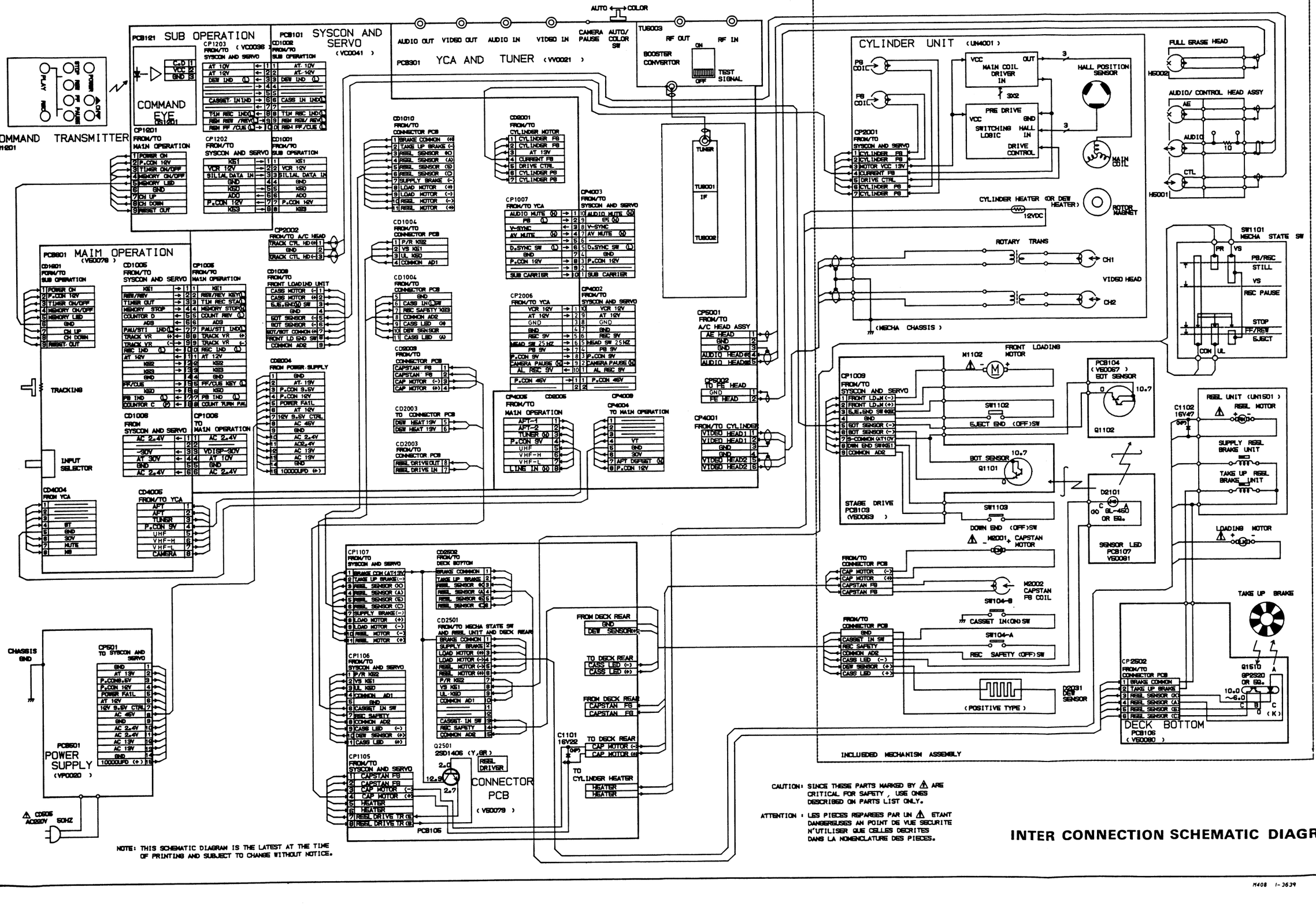
ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

POWER SUPPLY SCHEMATIC DIAGRAM

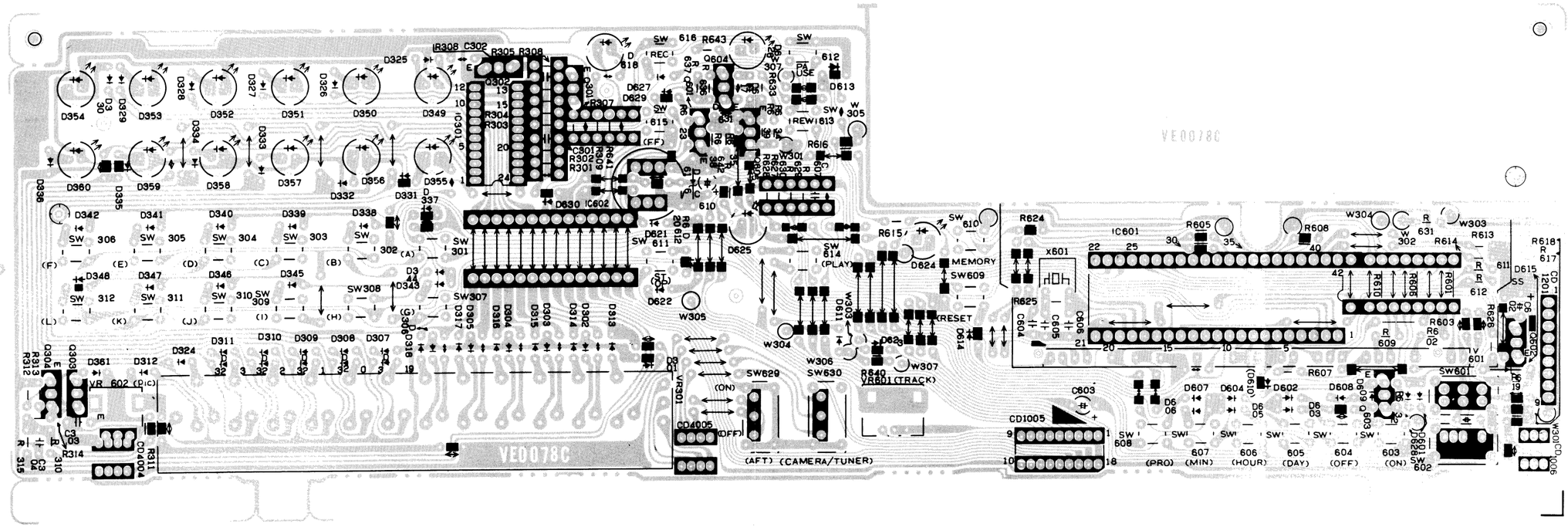
M408 2-2640

INTER CONNECTION SCHEMATIC DIAGRAM



INTER CONNECTION SCHEMATIC DIAGRAM

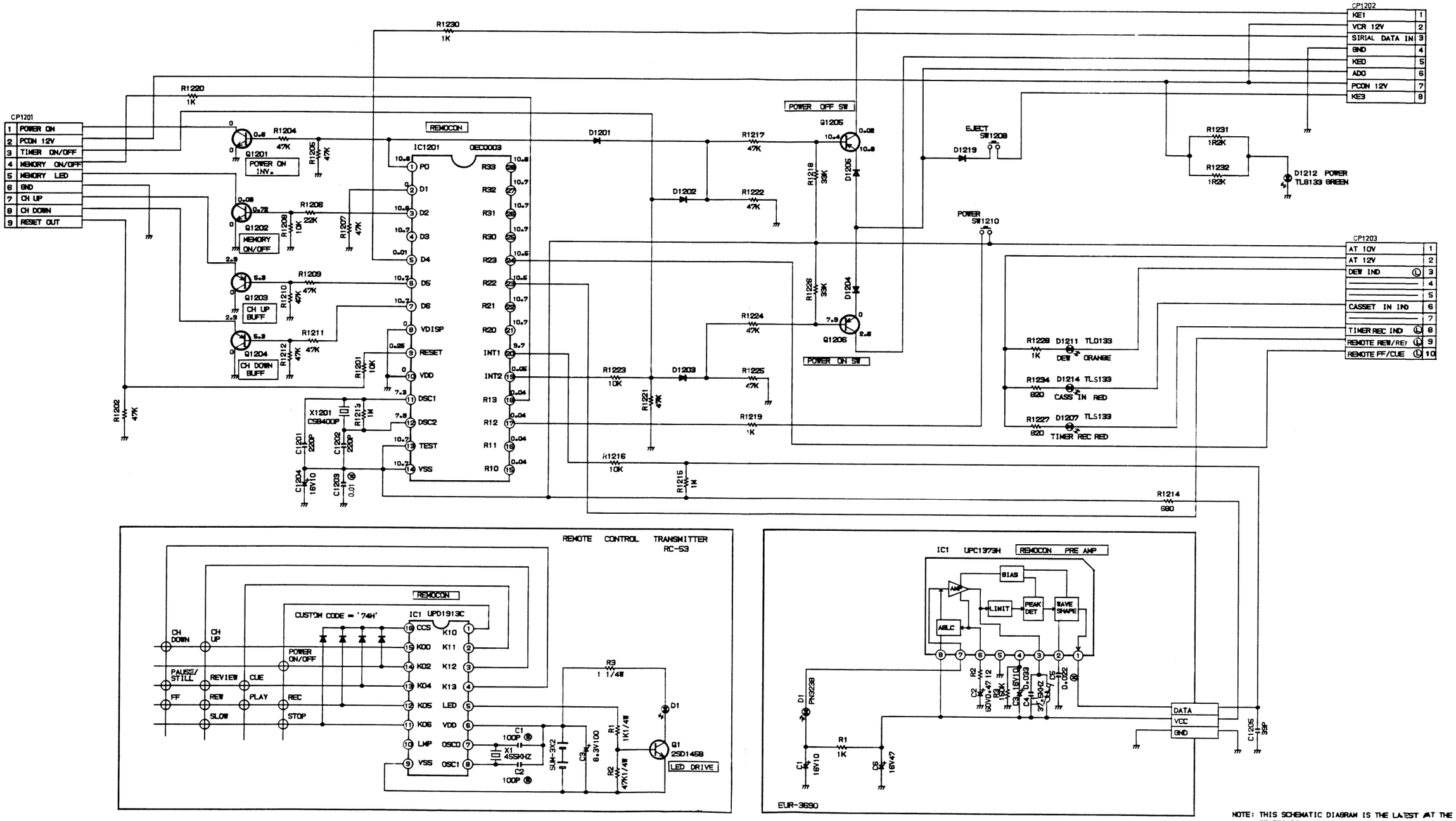
OPERATION 1 P.C. BOARD



VE0078C

OPERATION 1 P.C. BOARD

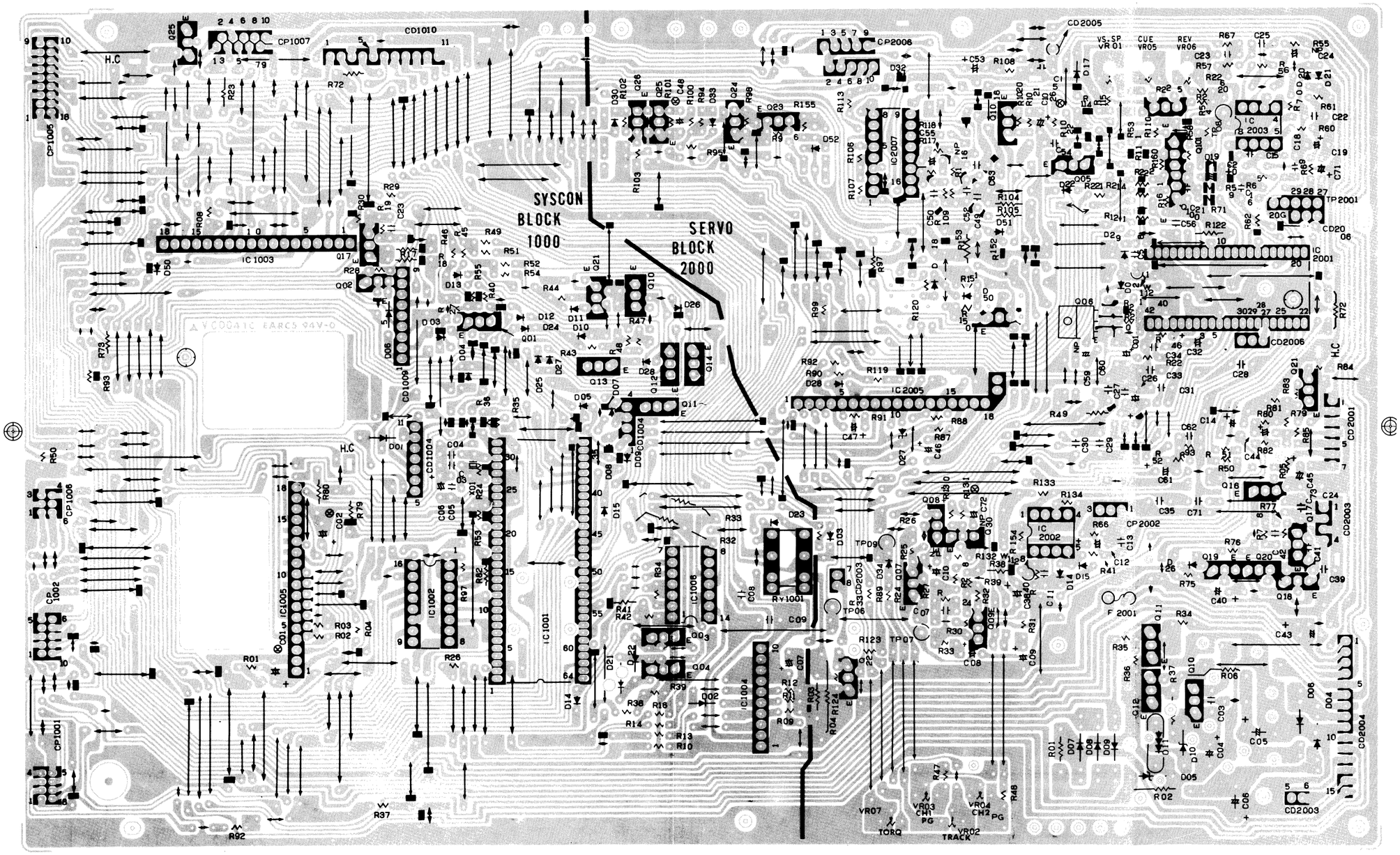
OPERATION 2 SCHEMATIC DIAGRAM



NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

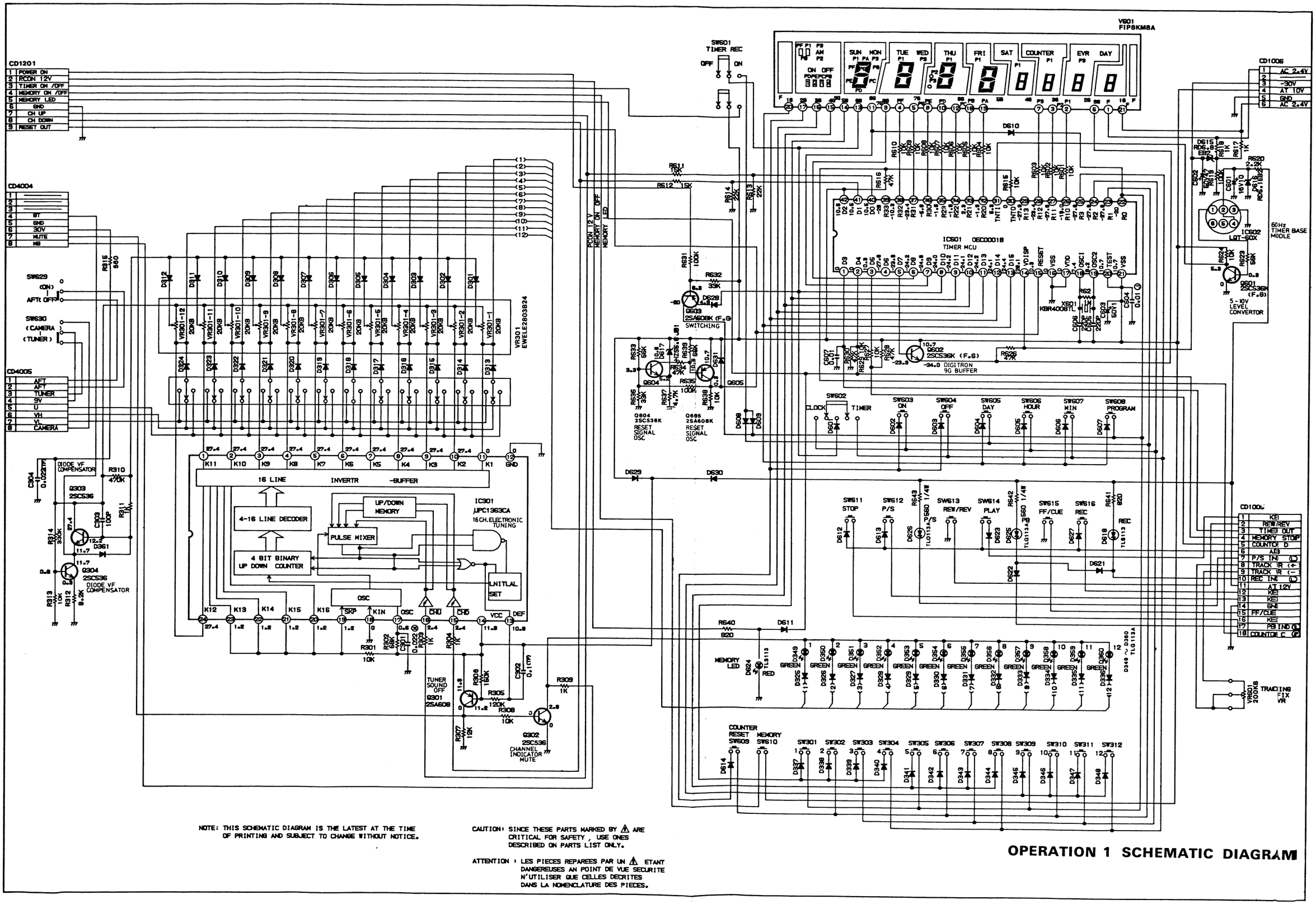
OPERATION 2 SCHEMATIC DIAGRAM

SYSTEM CONTROL / SERVO P.C. BOARD



SYSTEM CONTROL / SERVO P.C. BOARD

OPERATION 1 SCHEMATIC DIAGRAM



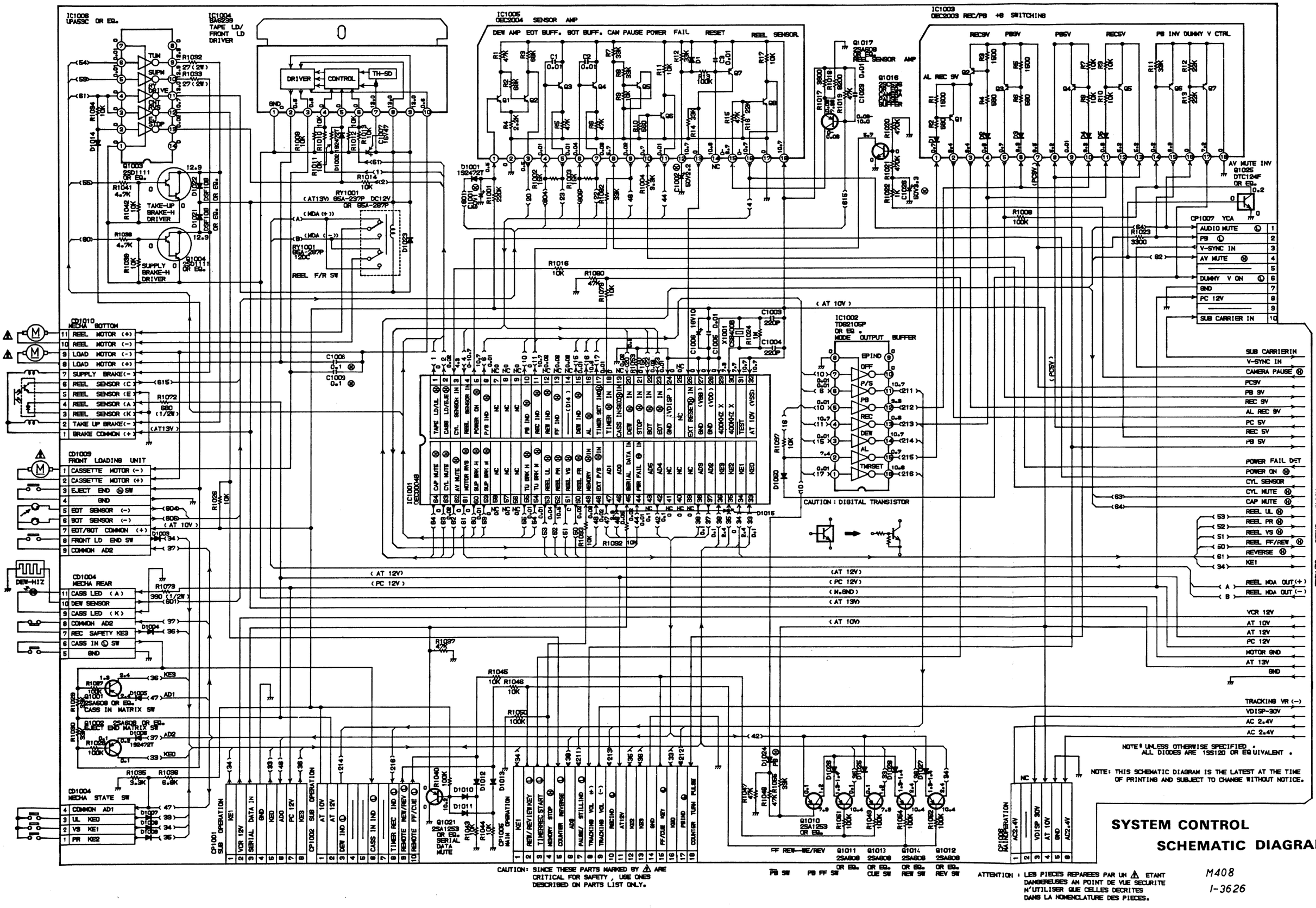
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY , USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

OPERATION 1 SCHEMATIC DIAGRAM

SYSTEM CONTROL SCHEMATIC DIAGRAM

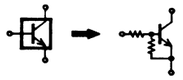


SERVO SCHEMATIC DIAGRAM

CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.
ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION : DIGITAL TRANSISTOR



TP2001

27	(FRAME.P)
28	(TRACK MM)
29	(HD SW)
GND	(GND)
20	(CTL IN)

YCA CP2006

1	VCR 12V
2	AT 12V
3	GND
4	GND
5	REC 9V
6	HEAD SW
7	PB 9V
8	PC 9V
9	CAMERA PAUSE Ⓜ
10	AL REC 9V

YCA CD 2005

1	PC 45V
2	----------

SUB CARRIER IN (4.434HZ)
V-SYNC IN
CAMERA PAUSE Ⓜ
PC 9V
PB 9V
REC 9V
AL REC 9V
PC 5V
REC 5V
PB 5V

POWER FAIL DET (D)
POWER ON Ⓜ
CYL SENSOR
CYL MUTE Ⓜ (63)
CAP MUTE Ⓜ (64)
REEL UL Ⓜ (53)
REEL PB/REC Ⓜ (52)
REEL VS Ⓜ (51)
REEL FF/REW Ⓜ (50)
REVERSE Ⓜ (61)
KE1 (34)

REEL MDA OUT (+)
REEL MDA OUT (-)

VCR 12V
AT 10V
AT 12V (E)
PC 12V (C)
MOTOR GND
AT 13V
GND

TRACKING VR(-)
VDISP-30V
AC 2.4V (H)
AC 2.4V (I)

FROM/TO SYSCON BLOCK

REEL VS SERVO IC2004 BA6302A

VS SPEED VR2001 220KB

CTL P AMP Q2005

UL TORQUE CTRL Q2026

UL TORQUE REGULATOR Q2025

FF/REW SPEED LIMITTER Q2024

VS INVERTER Q2023

REEL CONTROLLER IC2005 DEC2001

REEL PREDRIVE

EXCEP VS MUTE

REEL MUTE

T-F SEL

TORQUE VR2007 2.2KB

CYLINDER /CAPSTAN SERVO IC2001 DEC5001

Q2006 2SD1348 OR EQ. PC 5V REG

TP2007 (PC5V)

TP2008 (GND)

TP2009 (TRACK MM)

TRACKING FIX VR2002 220KB

TP2001

HEAD SW INV Q2008

CAP FG INV Q2030

CAP FG AMP

CTL PG AMP

CYL FG AMP Q2009

CYL PG IN

CYL DC AMP

CAP DC AMP

CYL APC OFF IN VS

CYL FR SW REV Q2100

CYL FR SW VS Q2105

CAP MUTE SW Q2060 DTC124

V-I CONV. Q2021

REEL M-T DRIVE SW Q2022 2SD1246 OR EQ.

CAPSTAN PREDRIVE Q2017

CAPSTAN DC AMP Q2016

BRAKE DRIVE Q2019

BRAKE Q2020 2SD1246

POWER CTRL INV Q2011

POWER OFF Q2012 2SC2274K OR EQUIV

REG Q2010 2SC2274 OR EQ.

TO CYLINDER MOTOR CD 2001

CYLINDER FG	1
CYLINDER FG	2
AT 13V	3
CURRENT FG	4
DRIVER CTRL	5
CYLINDER PG	6
CYLINDER PG	7

CYL FG COIL
CYL MOTOR ⚠
CYL PG HEAD

TO CAPSTAN CD 2003

CAPSTAN FG	1
CAPSTAN FG	2
CAPSTAN MOTOR (-)	3
CAPSTAN MOTOR (+)	4

CAP

CD 2003

DEW HEATER 13V	5
DEW HEATER 13V	6

FROM/TO POWER CD 2004

GND	1
AT 13V	2
PC 9.5V	3
PC 12V	4
POWER FAIL	5
AT 12V	6
PC12,9.5 OFF ①	7
AC 45V	8
GND	9
AC 2.4V	10
AC 2.4V	11
AC 13V	12
AC 13V	13
GND	14
10000UFD (+)	15

F2001 (ICP-N20)

CD 2003 TO DECK

REEL DRIVER IN	7
REEL DRIVER OUT	8

A/C HEAD (CTL SECTION)

CP 2002

TRACK CTL HD (+)	1
GND	2
TRACK CTL HD (-)	3

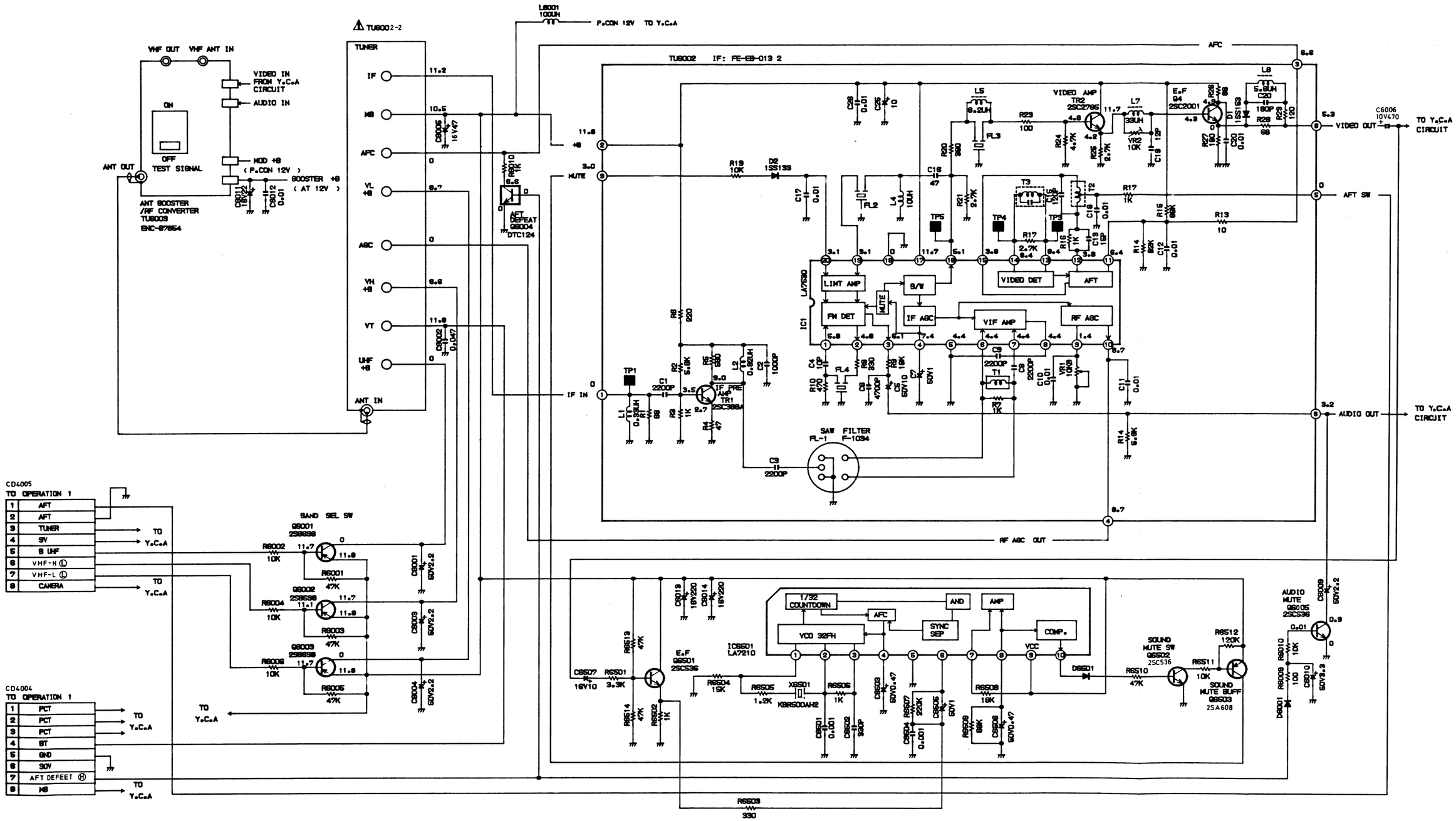
NOTE: UNLESS OTHERWISE SPECIFIED.
ALL DIODES ARE 1SA01 OR EQ.
ALL PNP TYPE TR'S ARE 2SA608 OR EQ.
ALL NPN TYPE TR'S ARE 2SC536 OR EQ.

(PC 12V)
(PC 9V)
(AT 13V)

SERVO SCHEMATIC DIAGRAM

M408 1-3625

DEMODULATOR SCHEMATIC DIAGRAM

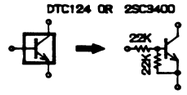


CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION: LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AU POINT DE VUE SECURITE, N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

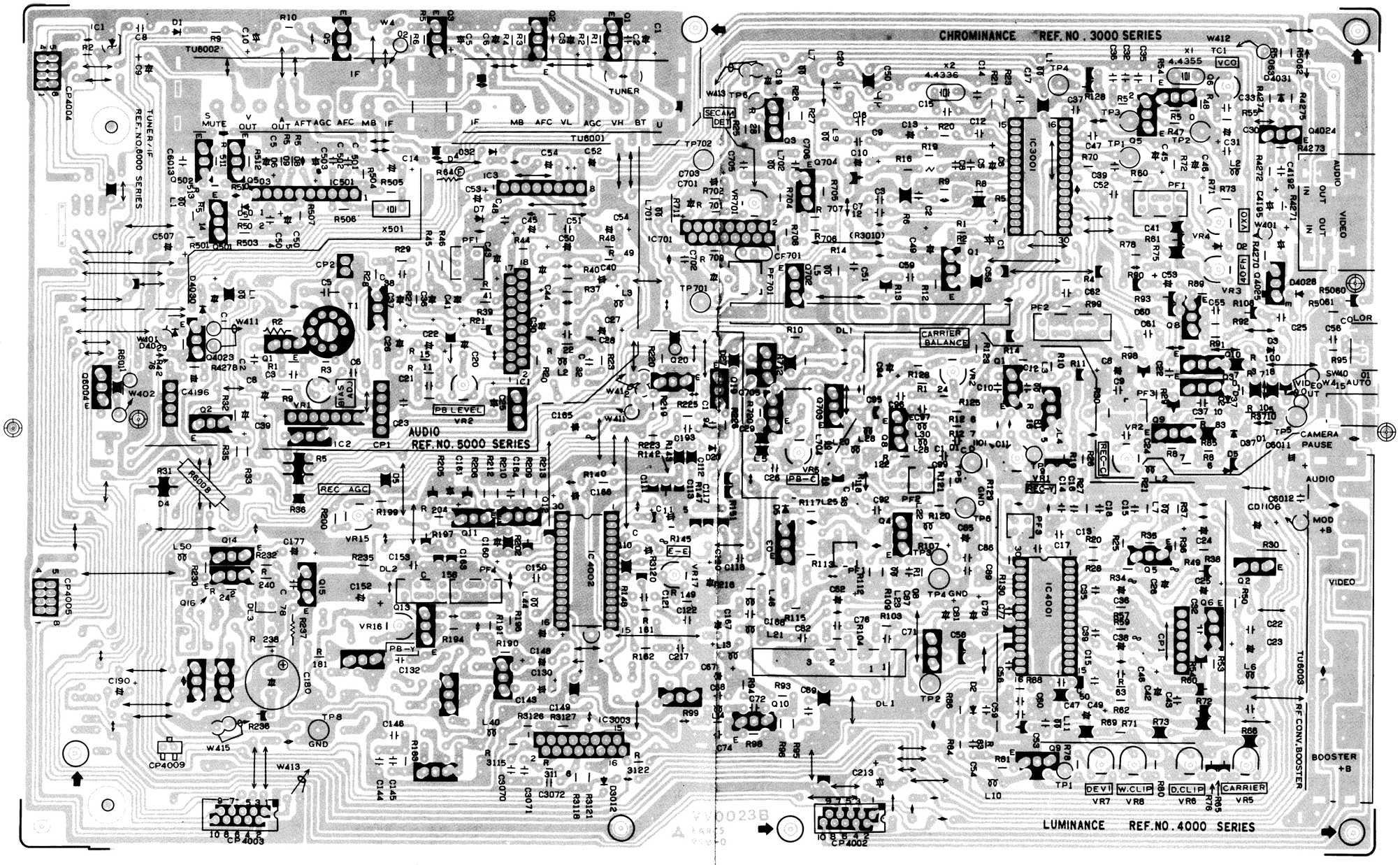
NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

CAUTION : DIGITAL TRANSISTOR
DTC124 OR 2SC3400



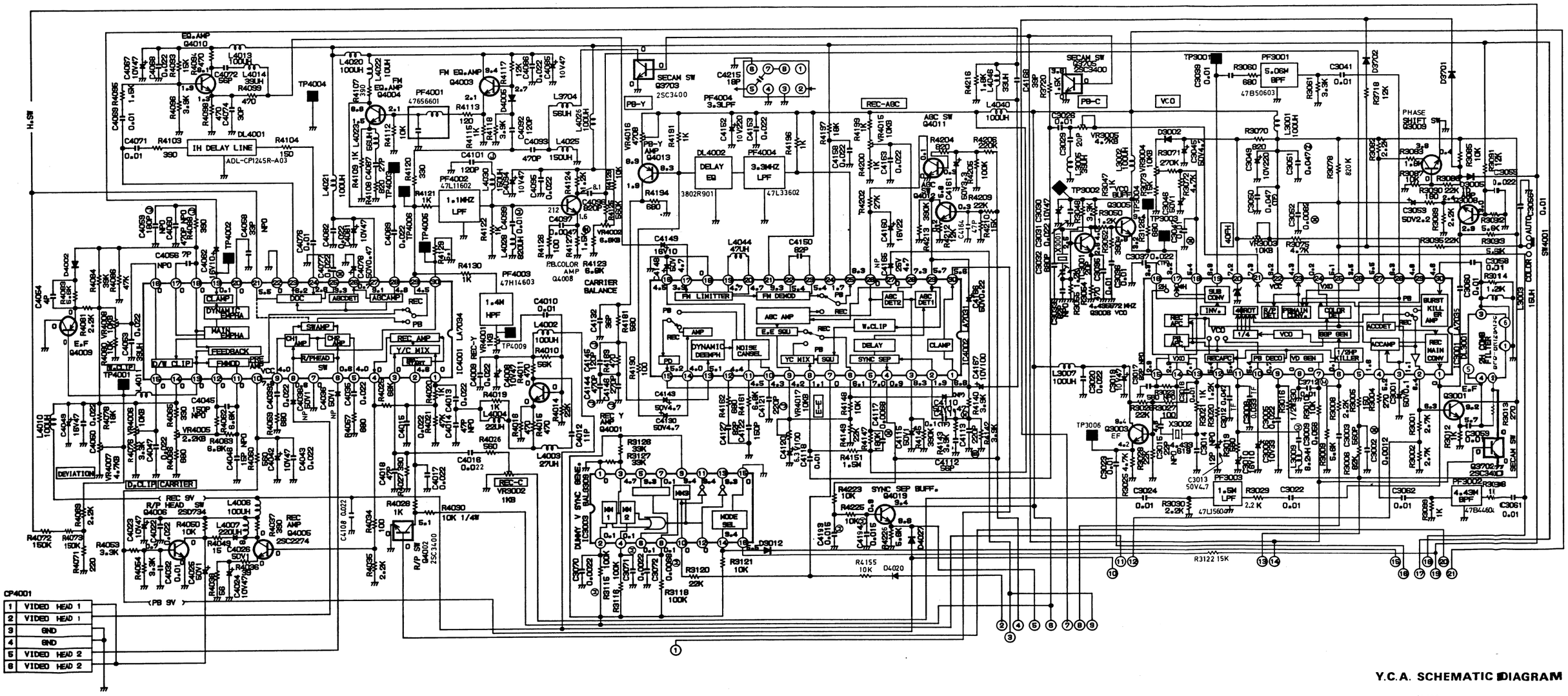
DEMODULATOR SCHEMATIC DIAGRAM

Y.C.A. P.C. BOARD



Y.C.A. P.C. BOARD

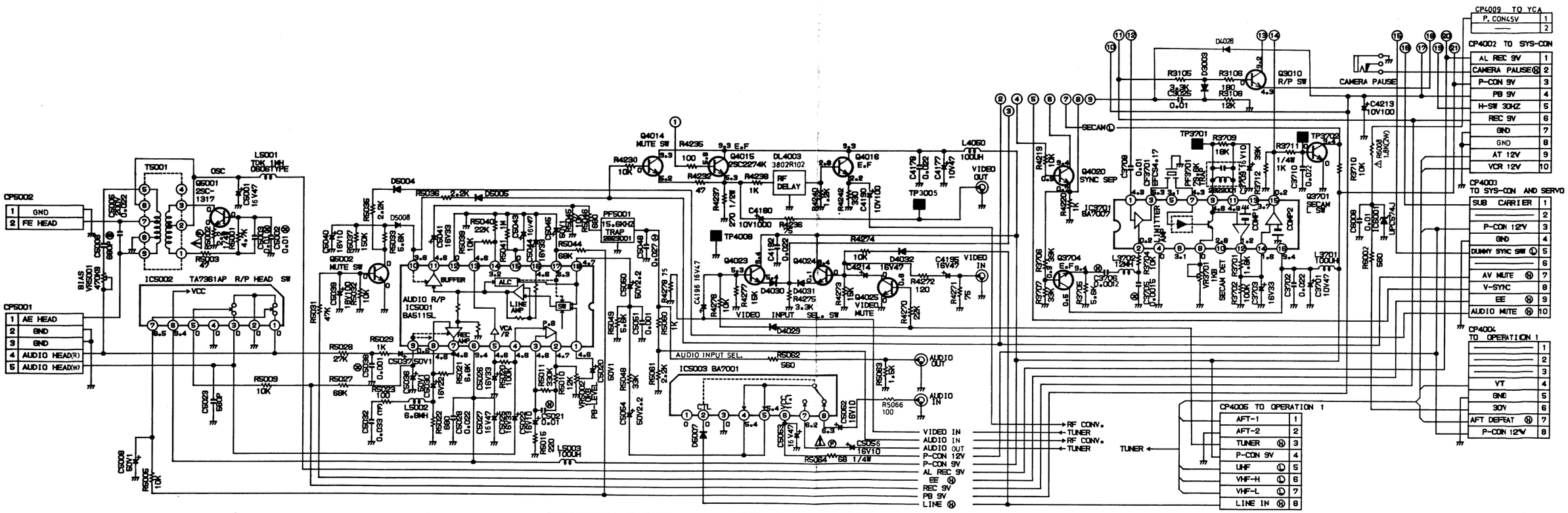
Y.C.A. SCHEMATIC DIAGRAM



Y.C.A. SCHEMATIC DIAGRAM

M408
1-3627

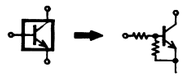
Y.C.A. SCHEMATIC DIAGRAM



CAUTION: SINCE THESE PARTS MARKED BY ⚠ ARE CRITICAL FOR SAFETY, USE ONES DESCRIBED ON PARTS LIST ONLY.

ATTENTION : LES PIECES REPAREES PAR UN ⚠ ETANT DANGEREUSES AN POINT DE VUE SECURITE N'UTILISER QUE CELLES DECRITES DANS LA NOMENCLATURE DES PIECES.

CAUTION : DIGITAL TRANSISTOR.



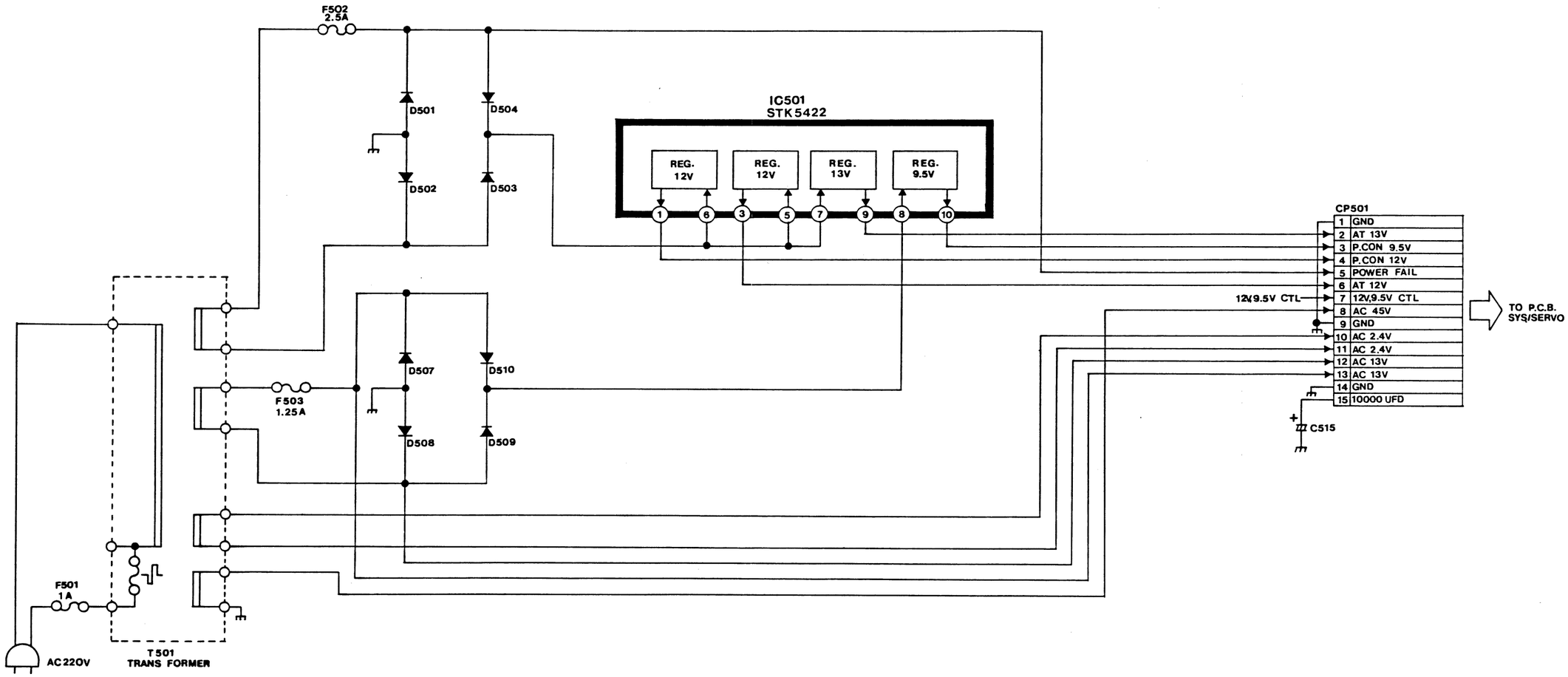
NOTES : UNLESS OTHERWISE SPECIFIED
1. PNP TYPE TRANSISTORS ARE 2SA608 (F.G)
2. NPN TYPE TRANSISTORS ARE 2SC536
3. ALL DIODES ARE GMA-01 OR 1SS132

NOTE: THIS SCHEMATIC DIAGRAM IS THE LATEST AT THE TIME OF PRINTING AND SUBJECT TO CHANGE WITHOUT NOTICE.

Y.C.A. SCHEMATIC DIAGRAM

M408
I-3628

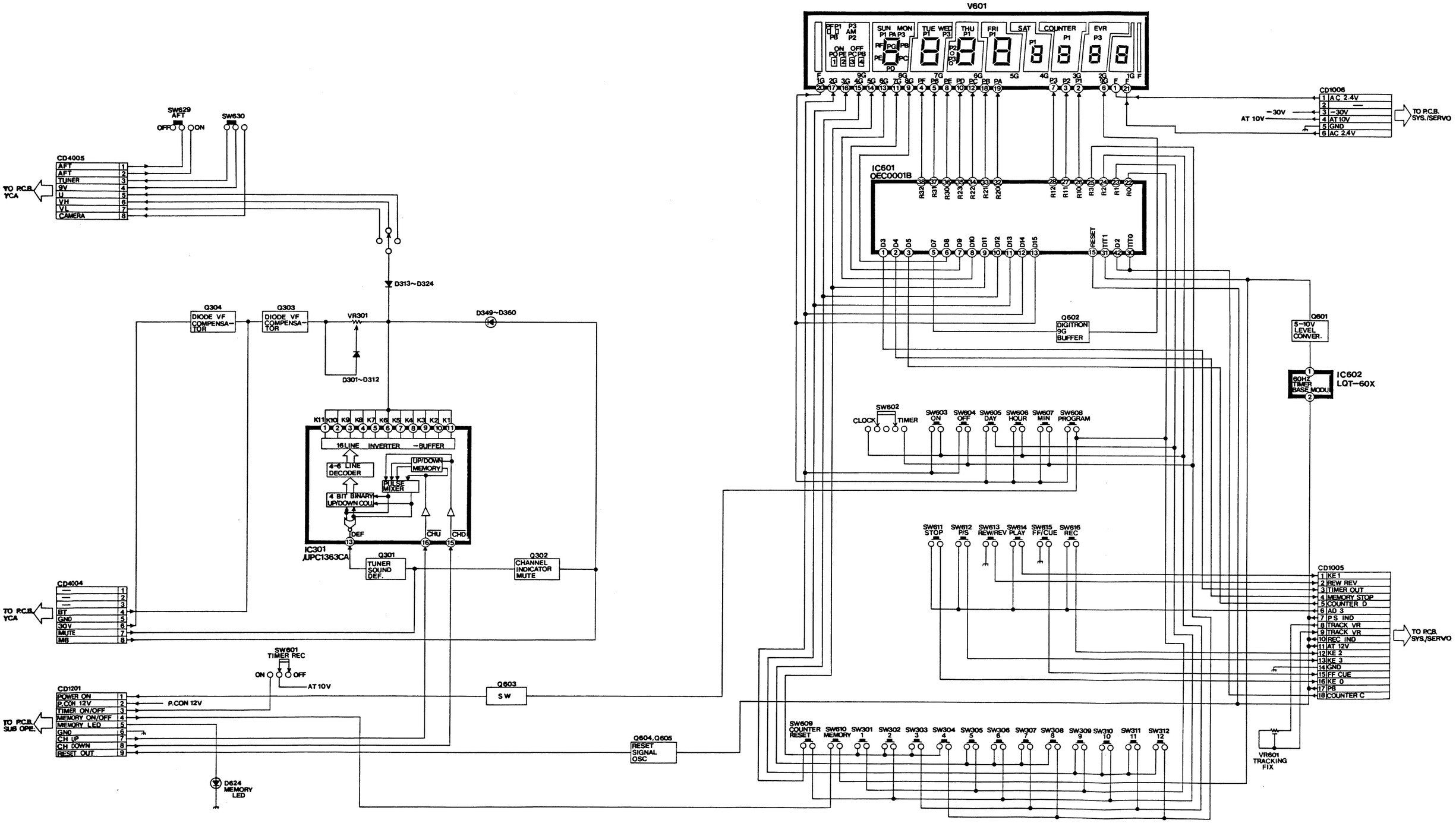
POWER SUPPLY BLOCK DIAGRAM



POWER SUPPLY BLOCK DIAGRAM

M408
2-2643

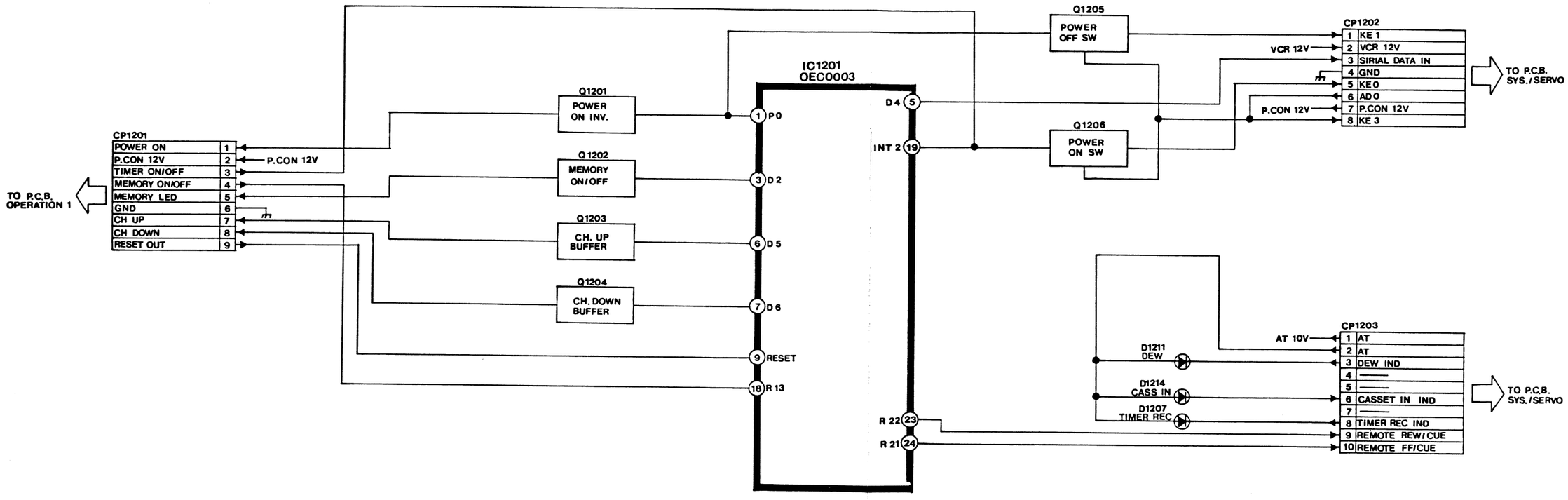
OPERATION 1 BLOCK DIAGRAM



OPERATION 1 BLOCK DIAGRAM

M408
I-3649

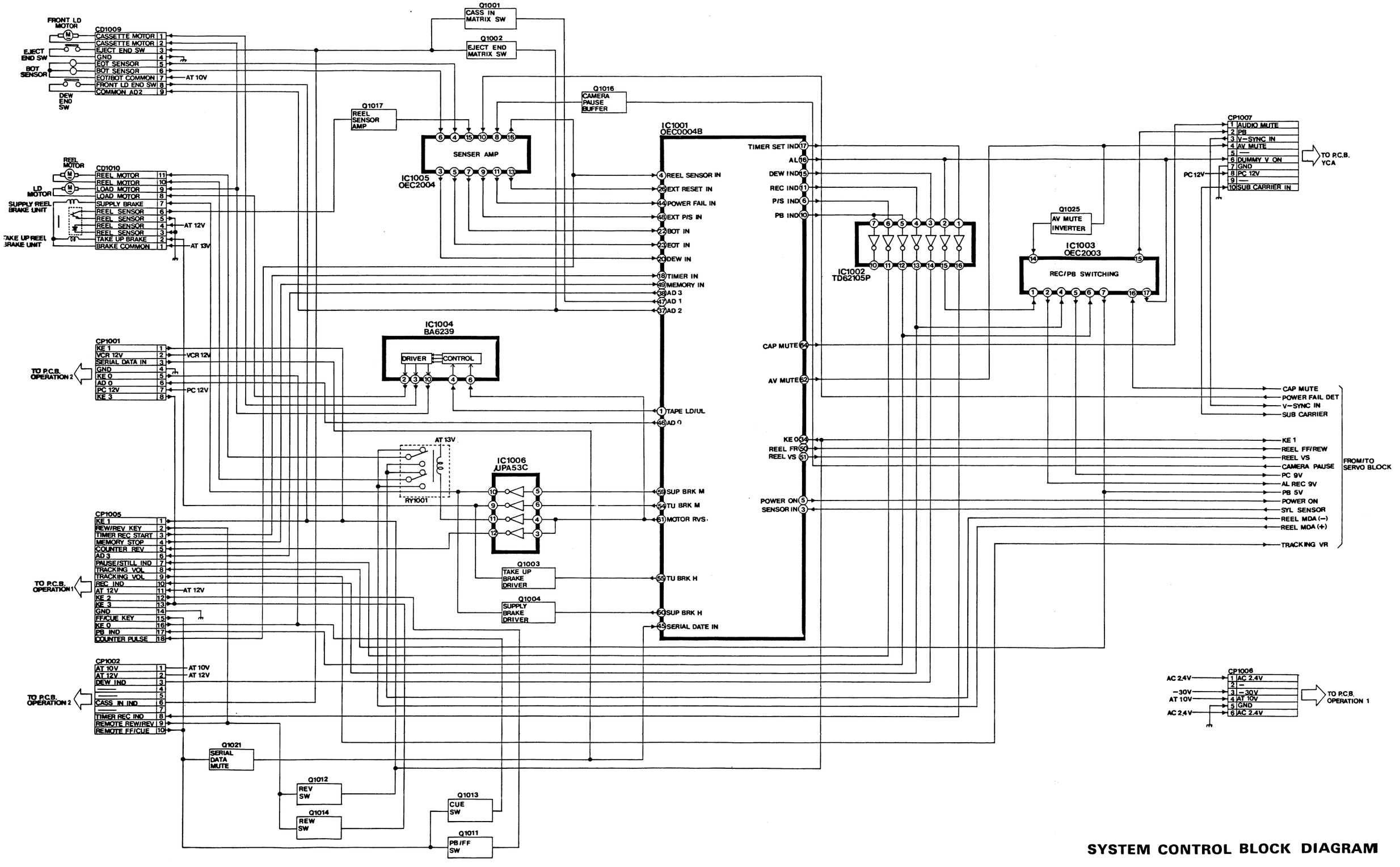
OPERATION 2 BLOCK DIAGRAM



OPERATION 2 BLOCK DIAGRAM

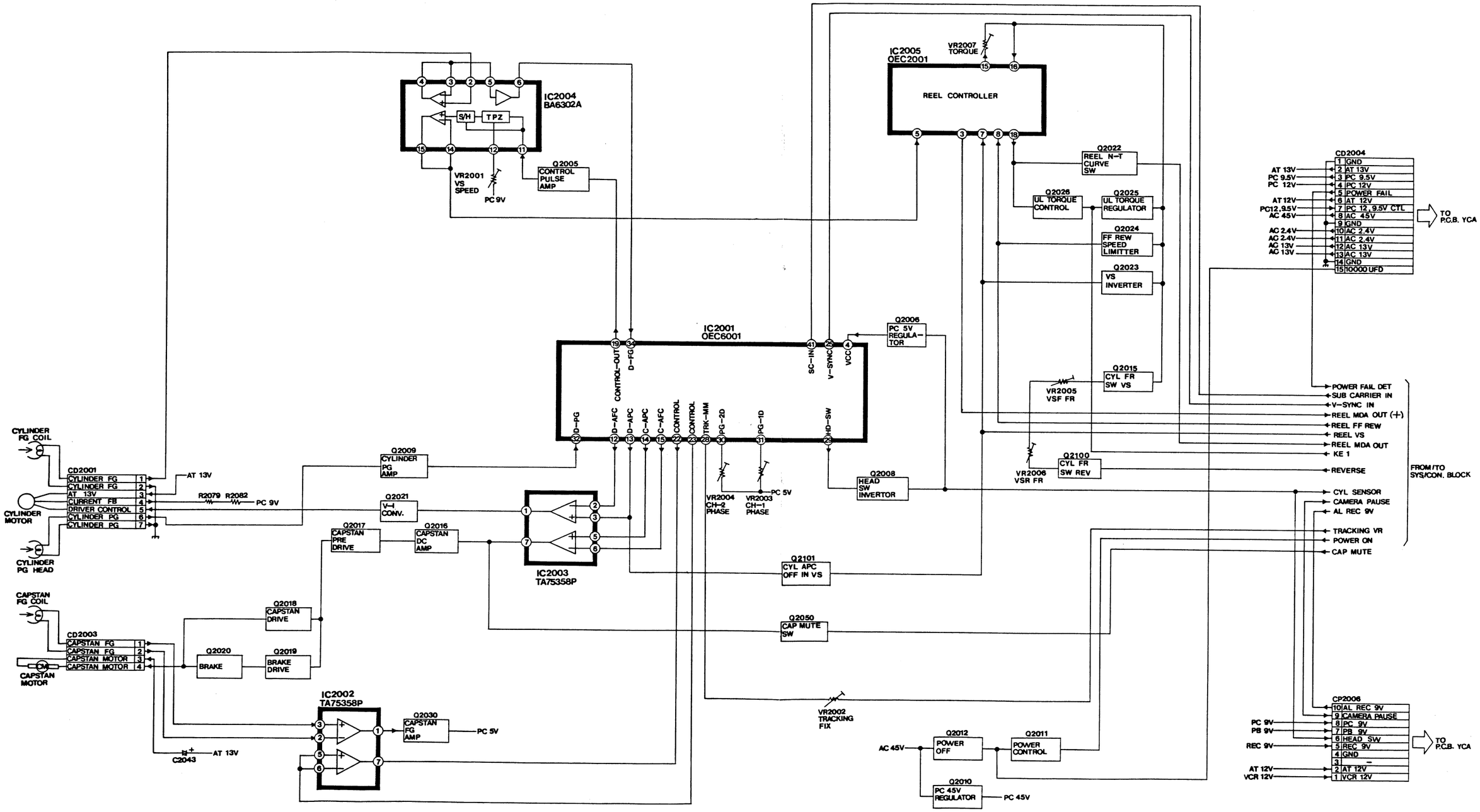
M408
2-2642

SYSTEM CONTROL BLOCK DIAGRAM



SYSTEM CONTROL BLOCK DIAGRAM

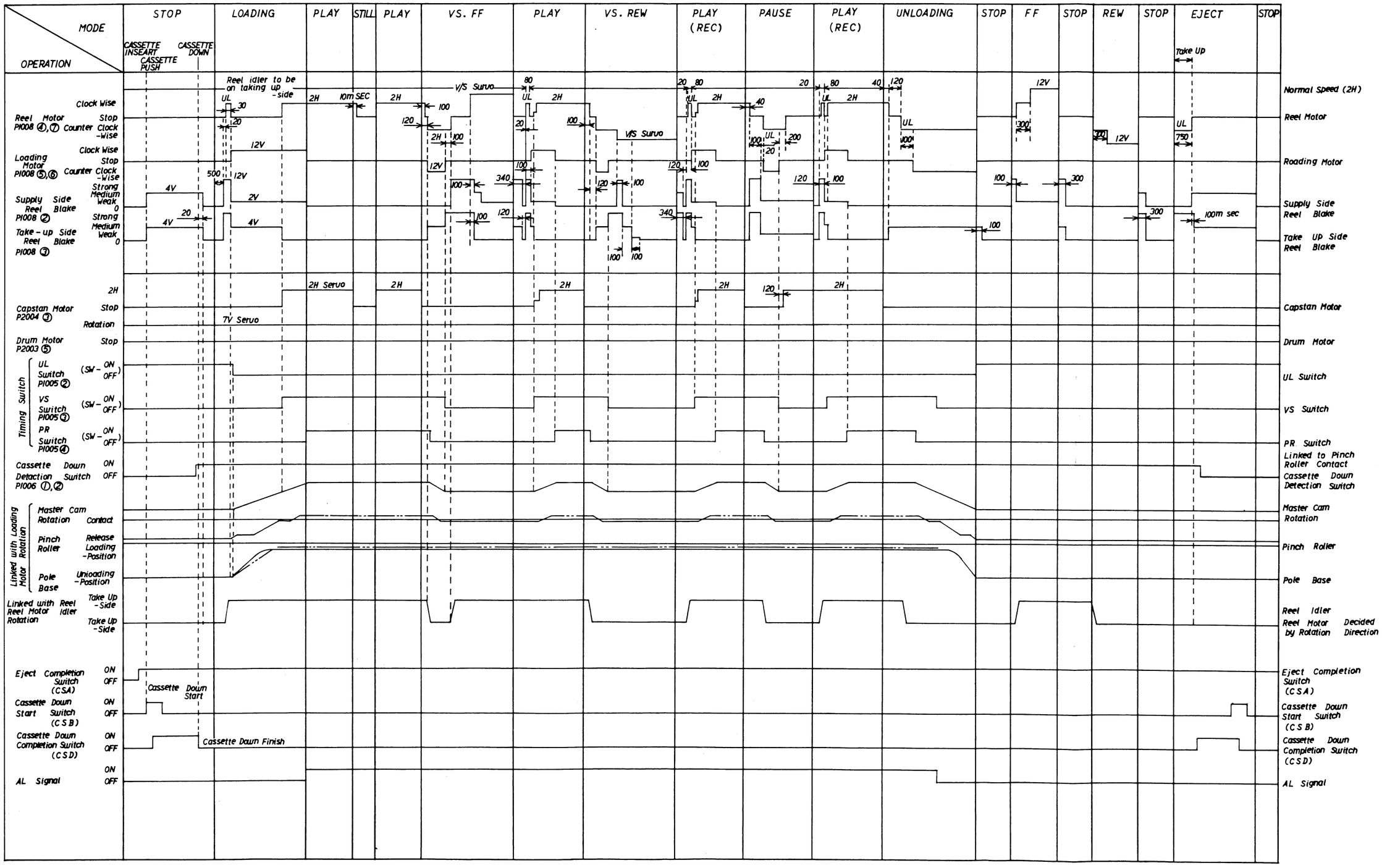
SERVO BLOCK DIAGRAM



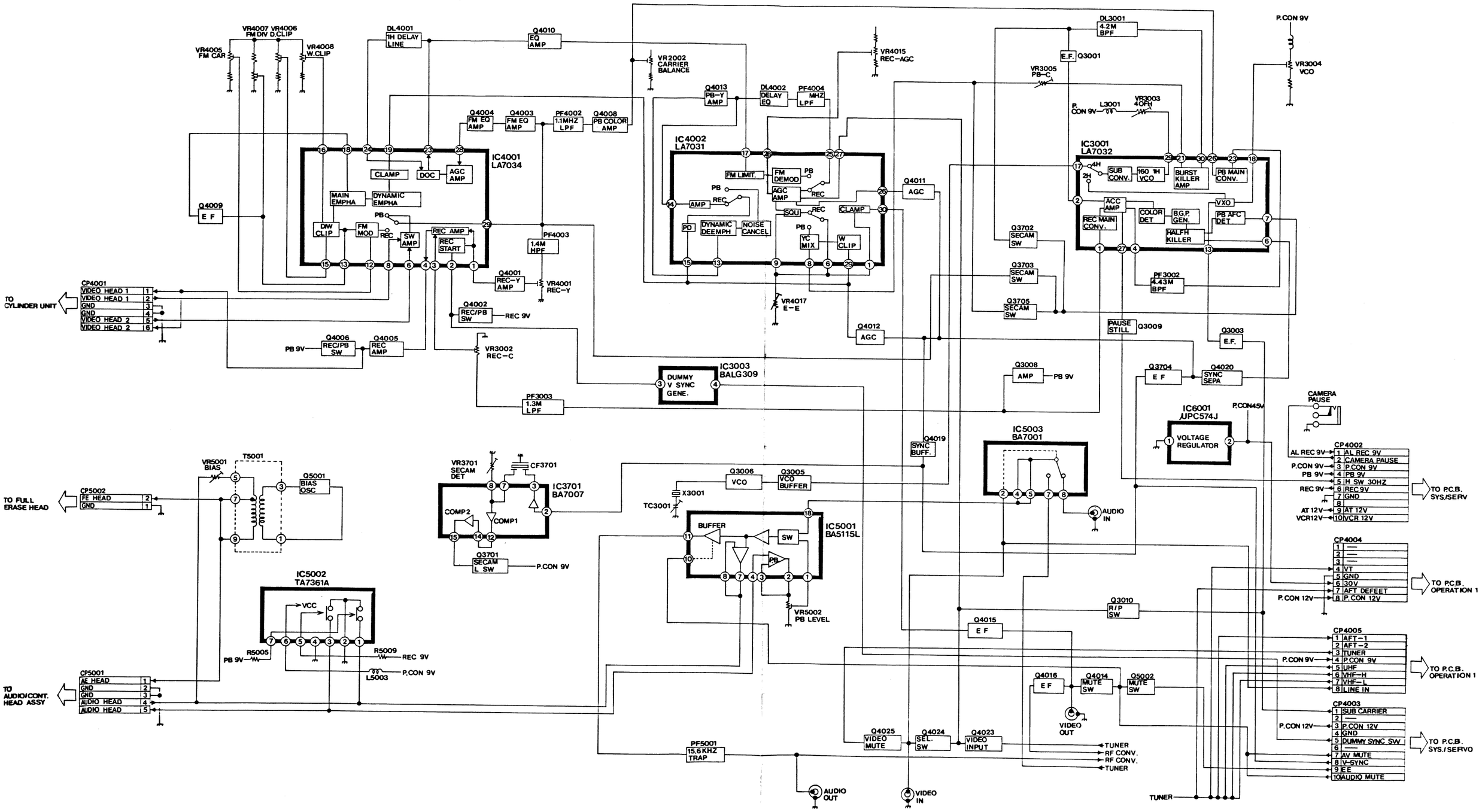
SERVO BLOCK DIAGRAM

M408
1-3651

TIMING CHART



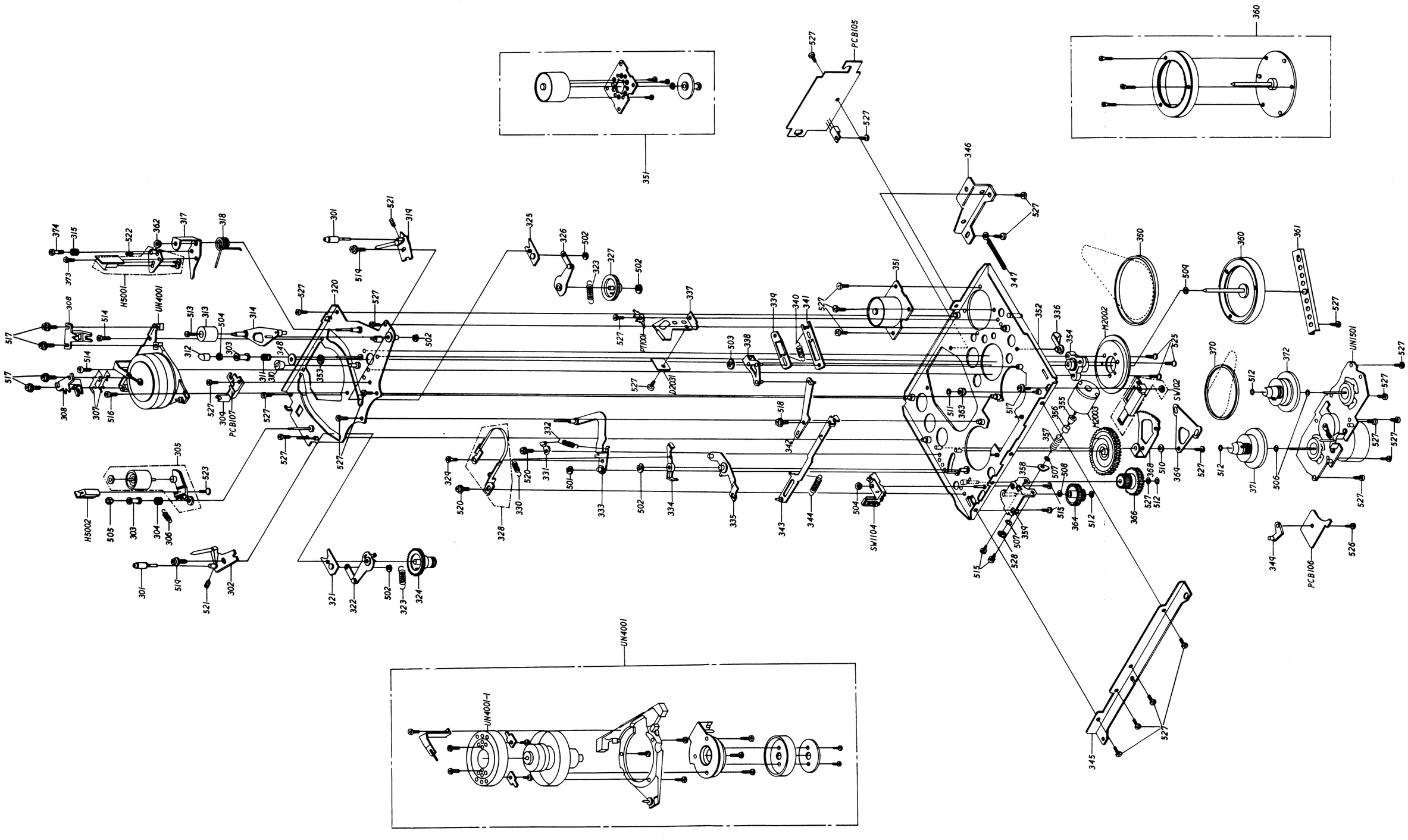
Y.C.A. BLOCK DIAGRAM



Y.C.A. BLOCK DIAGRAM

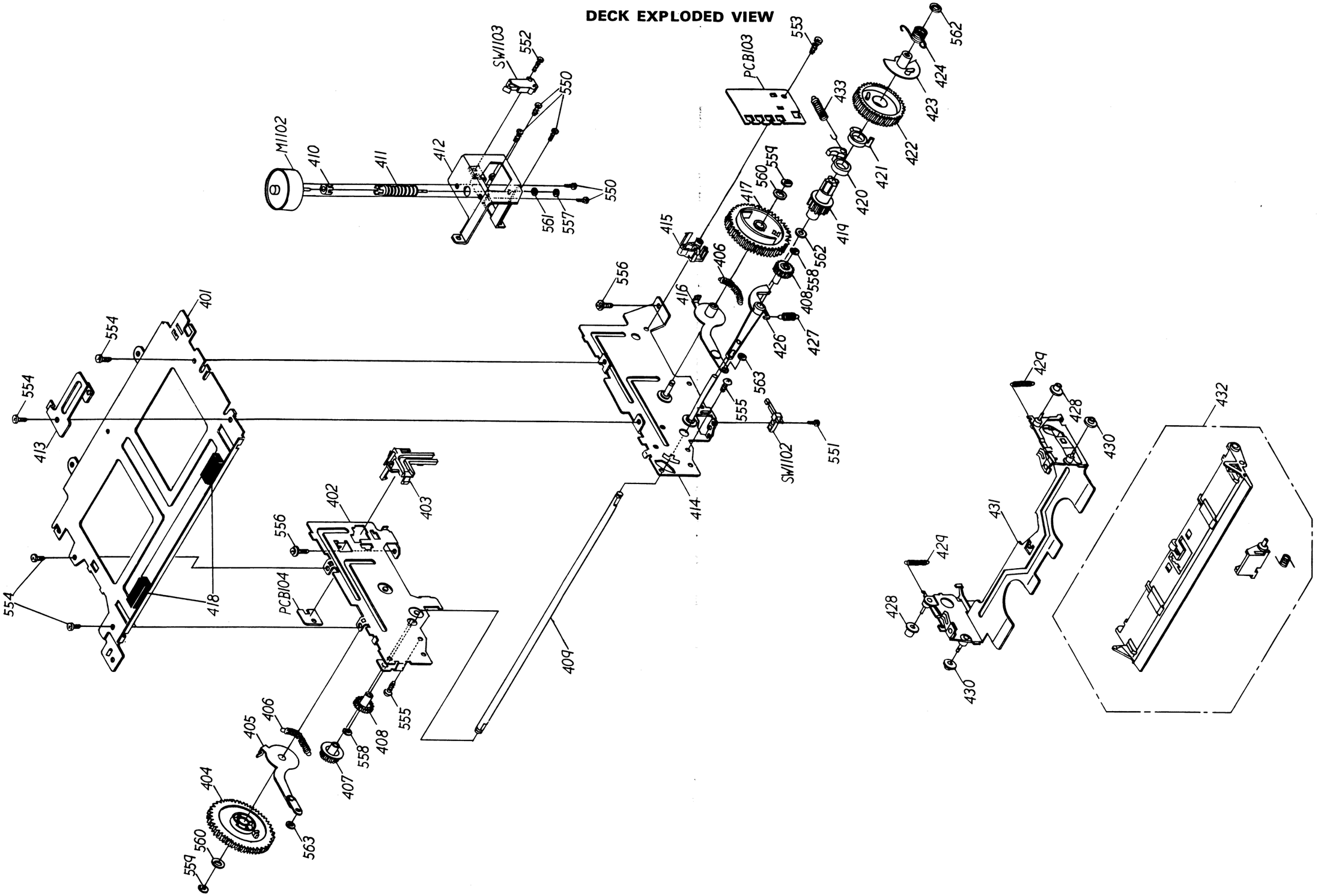
M408
1-3653

DECK EXPLODED VIEW



DECK EXPLODED VIEW

DECK EXPLODED VIEW



DECK EXPLODED VIEW

REF. NO.	PART NO.	DESCRIPTION		Q'TY
CP1102	0694190070	Connector P.C.B. Side	172683-9 UX-H	1
CP1105	0694180079	Connector P.C.B. Side	6-172683-8 UX-H	1
CP1106	06941B0079	Connector P.C.B. Side	7-172683-1 UX-H	1
CP1107	06941B0070	Connector P.C.B. Side	1-172683-1 UX-H	1
C1101	E03N02220M	CE USP1C220NCP	22 μF 16V	1
C1102	E03N02470M	CE USP1C470MCA1	44 μF 16V	1
C1103	C010B0413K	CC ECKF1HM102KB	0.001 μF 50V	1
D2030	0021G25010	LED	GL450	1
D2031	DAK0000040	Dew Sensor	HDP-03-L	1
H5001	1523D91001	Head, Audio Control	HV225635	1
H5002	1543D02001	Head, Full Erase	HV113552	1
M1102	1596958002	Motor Loding	MMN-5C2RJ	1
M2002	1598G00005	FG Stater	HZR0051-01-050	1
M2003	1596958001	Motor, Loading	MXN-12AD12F	1
PCB103	13VE0063B1	P.C.B.	VE0063B	1
PCB104	13VE0067B1	P.C.B.	VE0067B	1
PCB105	13VE0079D1	P.C.B.	VE0079D	1
PCB106	13VE0080D1	P.C.B.	VE0080D	1
PCB107	13VE0081D1	P.C.B.	VE0081D	1
PT1001	1261000004	Lug Pin	21009	1
Q1510	0002G00010	Photo Coupler	GP2S02	1
Q1101	0000200010	Transistor Photo	PH101	1
Q1102	0000200010	Transistor Photo	PH101	1
Q2501	TD50014060	Transistor, Silicon	2SD1406	1
SW1102	0510331006	Switch, Slide	HMW0350-01-010	1
SW1103	0551I11001	Switch, Skelton	QAS-1133AAU	1
SW1104	0550I22001	Switch, Leaf	LSB-2124AU	1
UN1501	1592300005	Unit, Reel Motor	VRU2006	1
UN4001	1590D00010	Unit, Cylinder	TAB2-131	1

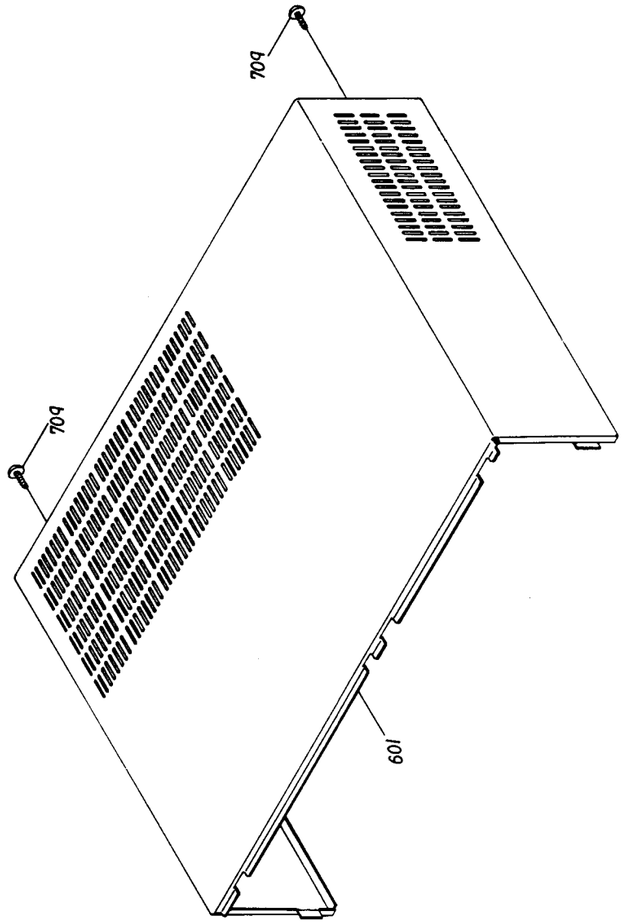
REF. NO.	PART NO.	DESCRIPTION		Q'TY
501	867NETW251	E-Ring	2.5ϕ	1
502	867NETW301	E-Ring	3.0ϕ	5
503	867NETW401	E-Ring	4.0ϕ	1
504	867N002304	Nut	M3	2
505	867N007304	Nylon Nut	M3	1
506	867WP3144E	Polyslider Washer	3.1x4.4x0.13t	2
	867WP3144J	Polyslider Washer	3.1x4.4x0.25t	2
	867WP3144Q	Polyslider Washer	3.1x4.4x0.5t	2
507	867WP3154E	Polyslider Washer	3.1x5.4x0.13t	2
508	867WP3154J	Polyslider Washer	3.1x5.4x0.25t	1
509	867WP3670Q	Polyslider Washer	3.6x7x0.5t	1
510	867WP5090W	Polyslider Washer	5x9x1t	1
511	867WQ1732N	Polyslider Washer(Cut)	1.7x3.2x0.4t	1
512	867WQ2647N	Polyslider Washer(Cut)	2.6x4.7x0.4t	4
513	8670A1G404	Screw, Sems A	M2.6x4	1
514	8670A1HA04	Screw, Sems A	M3x10	2
515	8670A1H504	Screw, Sems A	M3x5	4
516	8670A1H804	Screw, Sems A	M3x8	1
517	8670B1HA04	Screw, Sems B	M3x10	5
518	8670B1H604	Screw, Sems B	M3x6	1
519	8670B1H804	Screw, Sems B	M3x8	2
520	867501H504	Screw, W+Tap-Tite-S +Pan	M3x5	2
521	8675DZD302	Set Screw, 6Cup Point	M2x3	2
522	8675CZH502	Set Screw, 6Cone Point	M3x5	1
523	867023D404	Screw, +Flat Head	M2x4	1
524	867WP3154N	Polyslider Washer	3.1x5.4x0.4t	1
525	867073HB34	Screw, Tap-Tite-S +Flat	M3x23	3
526	867072HA04	Screw, Tap-Tite-S +Bind	M3x10	1
527	867072H604	Screw, Tap-Tite-S +Bind	M3x6	28
528	867NETW201	E-Ring	2.0ϕ	1
550	8640A1G404	Screw, Sems A	M2.6x4	5
551	864021G604	Screw, +Pan Head	M2.6x6	1
552	864022D804	Screw, +Bind Head	M2x8	1
553	864022HA24	Screw, +Bind Head	M3x12	1
554	864022H604	Screw, +Bind Head	M3x61	4
555	864106H804	Screw, Tap-Tite-P +Brazer	M3x8	2
556	867072H608	Screw, Tap-Tite-S +Bind	M3x6 Red	2
557	864NETW151	E-Ring	1.5ϕ	1
558	864NETW201	E-Ring	2.0ϕ	2
559	864NETW301	E-Ring	3.0ϕ	2
560	864WA43A0U	Washer	4.3x10x0.8t	2
561	864WP2240Q	Polyslider Washer	2.2x4x0.5t	1
562	864WP4170Q	Polyslider Washer	4.1x7x0.5t	2
563	864WQ1640J	Polyslider Washer(Cut)	1.6x4.0.25t	2
-	8995167000	Band, Cord Clamp		8
-	8995167B00	Band, Cord Clamp	(Black)	1
CD2002	068313078A	Cord EIS Connector	8313078A	1
CD2501	068313085A	Cord EIS Connector	8313085A	1
CD2502	068316042A	Cord EIS Connector	8316042A	1
CD2503	06831A019A	Cord EIS Connector	831A019A	1
CD5001	068315042A	Cord EIS Connector	8315042A	1
CD5002	068312108A	Cord EIS Connector	8312108A	1

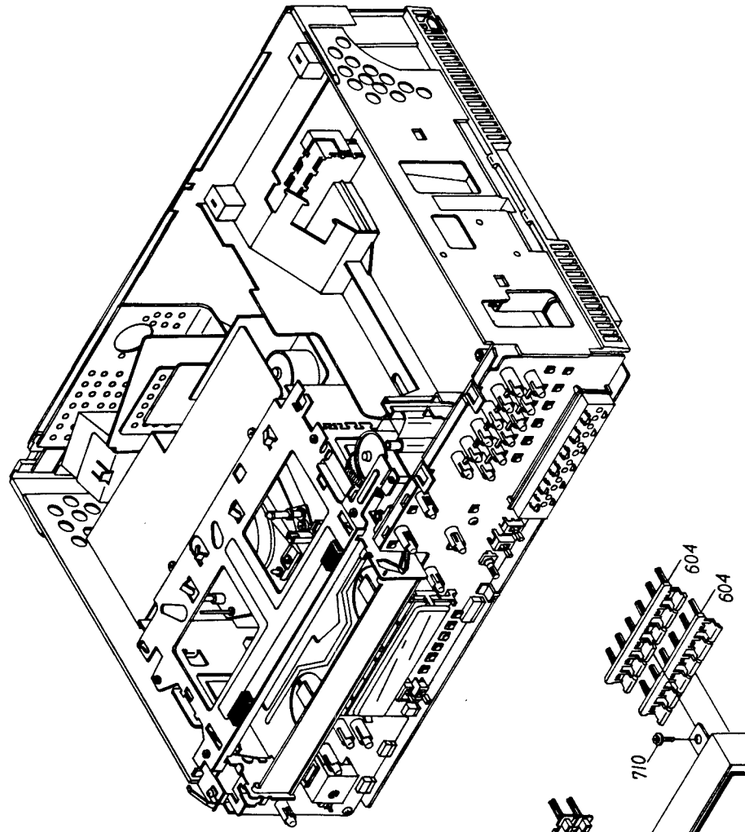
DECK REPLACEMENT PARTS LIST

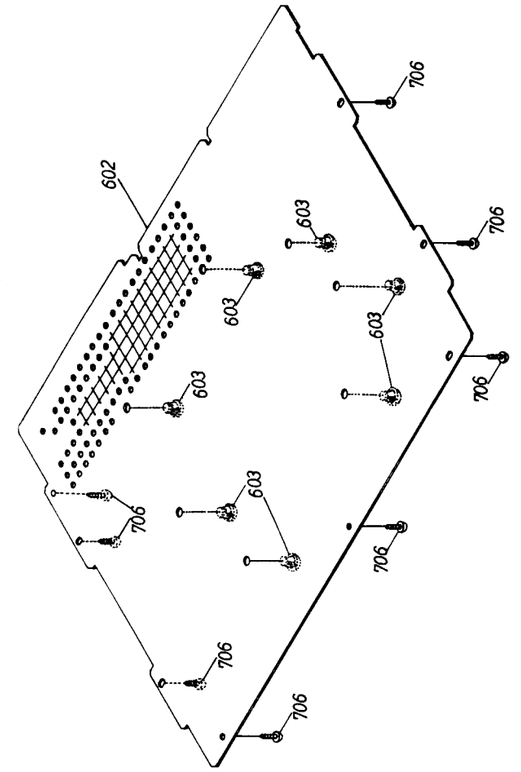
REF. NO.	PART NO.	DESCRIPTION	Q'TY
301	850A400036	Guide Roller Ass'y	2
302	850A400004	Inclined Base L Ass'y	1
303	850P400056	Post, Sleeve	2
304	850P800032	Spring, P1	1
305	850A500002	FE Head Arm Ass'y	1
306	850P800033	Spring, FE Head Arm	1
307	850P400040	Spacer-C	2
308	850P300024	Stopper, Post	2
309	850P700015	Holder, LED	1
310	850P500003	Adjust Nut X	1
311	850P800042	Spring, P4	1
312	850P400057	Guard Cap C	1
313	850A400018	Pinch Roller Ass'y	1
314	850A400017	Pinch Roller Arm Ass'y	1
315	850P800009	Spring, Azimuth	1
317	850P500009	AC Head Base	1
318	850P800008	Spring, AC Head Base	1
319	850A400005	Inclined Base R Ass'y	1
320	850A100005	Loading Base Ass'y	1
321	850A300007	Slider L Ass'y	1
322	850A300004	Loading Arm L Ass'y	1
323	850P800006	Spring, Loading Gear	2
324	850A300010	Loading Gear L Ass'y	1
325	850A300008	Slider R Ass'y	1
326	850A300005	Loading Arm R Ass'y	1
327	850A300011	Loading Gear R Ass'y	1
328	850A600017	Tension Band Ass'y	1
329	840R760001	Collar Screw	1
330	850P800052	Spring, Sub Brake	1
331	850P600049	Plate, Adjust Tension	1
332	850P800027	Spring, Tension Arm	1
333	850A400031	Tension Arm Ass'y	1
334	850A600035	Brake Arm Ass'y	1
335	850A600013	Connect Lever Ass'y	1
336	899NAD0300	Speed Clamp	1
337	850A000005	Opener Ass'y	1
338	850A600015	Connect Arm Ass'y	1
339	850P600013	Damper Plate U	1
340	850P800004	Spring, Pinch Roller	1
341	850P600014	Damper Plate L	1
342	850P600050	Connect Rod B	1
343	850A600014	Connect Rod A Ass'y	1
344	850P800031	Spring, Connect Rod A	1
345	761JSA0229	Frame, Deck Front	1
346	761JSA0230	Frame, Deck Back	1
347	899PEC0340	Cord Clamp No. PEC-0340-0 DIA 3	1
348	850P400037	Washer, Oil Shield (P)	1
349	850P700017	Holder, Photo Interrupter	1
350	850P600022	Belt, Capstan	1
351	850A600033	Capstan Motor Ass'y	1
352	850A000004	Main Chassis Ass'y	1
353	850P400041	Sponge, Oil Stock	1
354	850A400032	Capstan, Flange Ass'y (P)	1

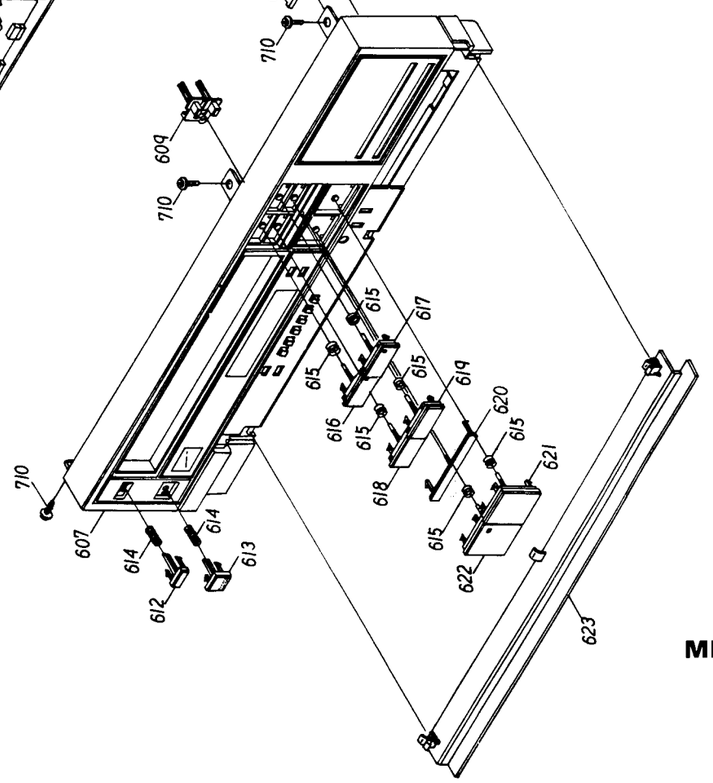
REF. NO.	PART NO.	DESCRIPTION		Q'TY
355	850P300033	Worm Joint		1
356	850P300048	Bush Rubber		1
357	850A300009	Worm Ass'y		1
358	850P300026	Bearing, Worm		1
359	850A300014	Bracket Loading Moter Ass'y		1
360	850A400030	Flywheel Capstan Ass'y (P)		1
361	850P400082	Holder, Flywheel		1
362	850P500010	Adjust Nut		1
363	850P600056	Pulley		1
364	850P300035	Gear A		1
366	850P300042	Gear D		1
367	850P300038	Cam Gear		1
368	850A300015	Fan-Shaped Gear Ass'y		1
369	850P300039	Plate, Loading Gear		1
370	850P700023	Belt Pulley		1
371	850U200003	Reel Disk Supply Unit		1
372	850U200004	Reel Disk Take Up Unit		1
373	86702HH804	Screw, +Upset	M3x8	1
374	867512HA34	Joint Screw, +Bind	3x13x4	3
401	850P900179	Bracket, Top		1
402	850A900033	Side Bracket L Ass'y		1
403	850P900085	End Sensor Holder L		1
404	850P900076	Link Gear L		1
405	850A900015	Link Arm L Ass'y		1
406	850P800023	Spring, Link Gear		2
407	850P900078	Transfer Gear L		1
408	850P900075	Synchro Gear		2
409	850P900169	Shaft, Synchro		1
410	850P900083	Worm Driver		1
411	850A900019	Worm Ass'y		1
412	850P900073	Motor Bracket		1
413	850P900180	Bracket, Stage		1
414	850A900032	Side, Bracket R Ass'y		1
415	850P900086	End Sensor Holder R		1
416	850A900016	Link Arm R Ass'y		1
417	850P900077	Link Gear R		1
418	800JF00089	Cushion	10x20x5t	2
419	850P900079	Transfer Gear R		1
420	850P900094	Stopper 2		1
421	850P900082	Stopper 1		1
422	850P900100	Worm Wheel		1
423	850P900080	Clutch		1
424	850P800051	Spring, Clutch		1
426	850P900165	Flap, Opener		1
427	850P900171	Spring, Opener		1
428	850P900088	Roller 2		2
429	850P900170	Spring, Locker		2
430	850P900087	Roller 1		2
431	850A900034	Cass, Holder Ass'y		1
432	850A900036	Tape Guide Piece Ass'y		1
433	850P800025	Spring, Stopper 2		1

MECHANICAL EXPLODED VIEW





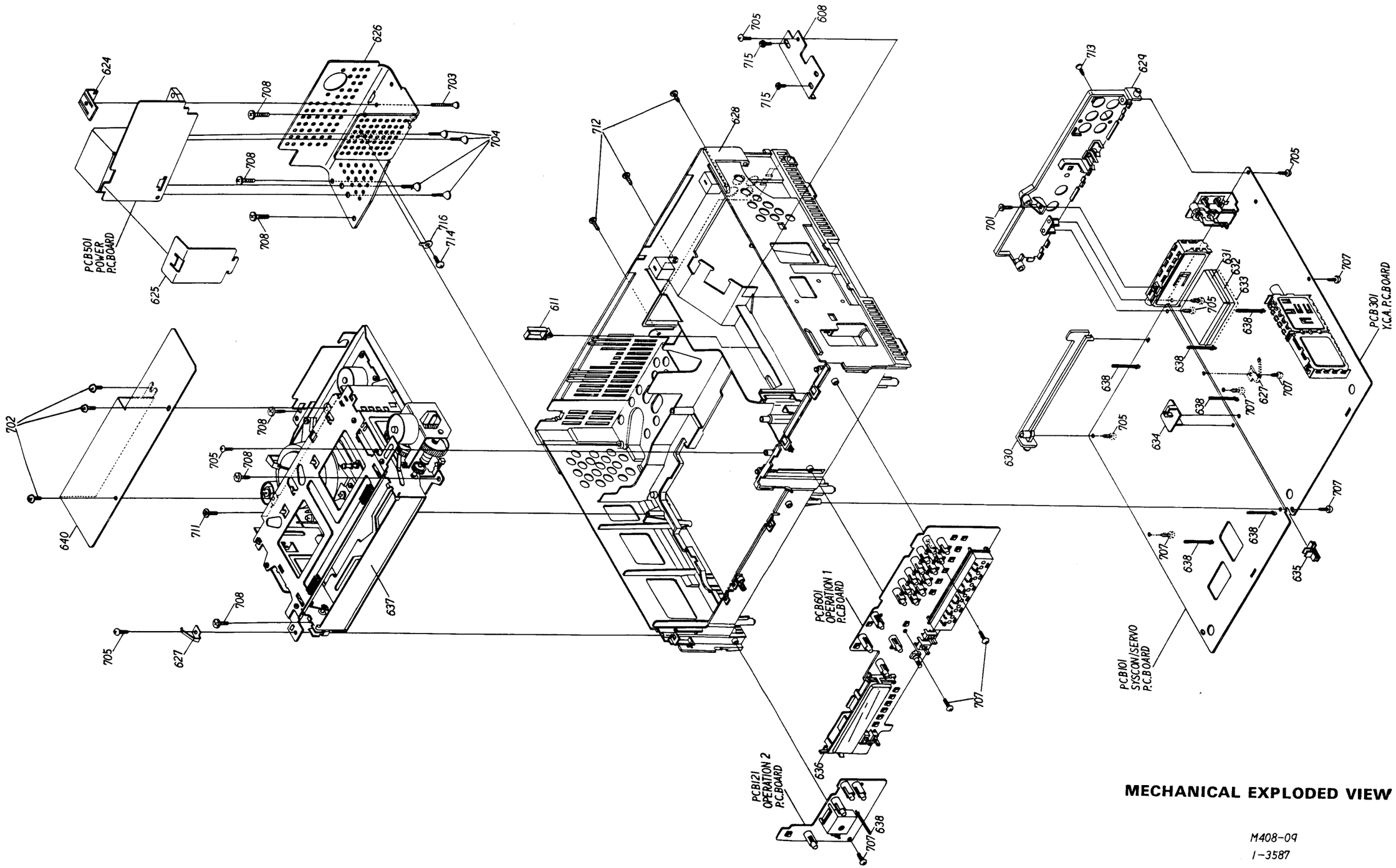




MECHANICAL EXPLODED VIEW

M408-09
I-3586

MECHANICAL EXPLODED VIEW



MECHANICAL EXPLODED VIEW

M408-09
1-3587

REF. NO.	PART NO.	DESCRIPTION		Q'TY
701	8102230401	Screw, Bind	M3x4	1
702	8107630604	Screw, Tap Tite (S)	M3x6	3
703	8102330B01	Screw, Flat	3x20	1
704	8102340A01	Screw, Flat	4x10	4
705	8110630801	Screw, Tap Tite (P)	3x8	7
706	8110630802	Screw, Tap Tite (P)	3x8(Black)	8
707	8110630808	Screw, Tap Tite (P)	3x8(Red)	8
708	8112240A21	Screw, Tapping B0	4x12	6
709	8117540A22	Screw, Tapping B Truss	4x12(Black)	2
710	8117E30A21	Screw, Tapping B (W/H 10ϕ)	3x12	3
711	8117F40A21	Screw, Tapping B (W/H 12ϕ)	4x12	1
712	8117230A42	Screw, Tapping B Bind	3x14(Black)	3
713	8117330A01	Screw, Tapping B Flat	3x10	1
714	8109540A04	Screw, Tap Tite (B) Truss	4x10	1
715	810F130501	Screw, Sems F	3x5	2
716	901A050000	Earth Lug	4.2ϕ (A5)	1
-	779JPA0008	Spacer, LED		3/8
-	779JPA0012	Holder, LED		3
-	791JHA0058	Gift Sheet		1
-	792JHA0101	Package, Left		1
-	792JHA0102	Package, Right		1
-	793JCD1059	Gift Box		1
-	795JCA0041	Pad		1
-	8995167000	Band, Cord Clamp		10

MECHANICAL REPLACEMENT PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY
601	702JSS0017	Cabinet, Top	1
602	702JSA0007	Plate, Bottom	1
603	890KGPS6R0	Card, Spacer	7
604	735JPB0028	Button, Channel	2
607	701JPJ0317	Cabinet, Front	1
	7230000853	Plate, Receiver	1
	7230000854	Plate, Clock	1
	7230000944	Plate, Channel	1
	7230000946	Plate, Display	1
	7240000214	Plate, Operation	1
	7230000908	Sheet, Picture	1
	713JPA0048	Glass, LED	1/8
608	762JSE0005	Tuner Bracket	1
609	735JPB0026	Button, Counter	1
611	899LWS3NA0	Wire, Saddle	1
612	735JPB0027	Button, Eject	1
613	735JPB0025	Button, Power	1
614	742JUA0017	Spring, Button	2
615	742JUA0018	Spring, Button(B)	6
616	735JPJ0027	Button, Deck PAUSE	1
	713JPA0070	Glass, LED	1
617	735JPJ0026	Button, Deck REC	1
	713JPA0070	Glass, LED	1
618	735JPJ0028	Button, Deck REW	1
619	735JPJ0025	Button, Deck FF	1
620	711JPJ0067	Plate, Indicator Deck	1
621	735JPJ0030	Button, Deck Stop	1
622	735JPJ0029	Button, Deck Play	1
	713JPA0070	Glass, LED	1
623	712JPJ0092	Door	1
624	761JSA0241	Angle, Power IC	1
625	755JNA0016	Cover, Fuse	1
626	763JEA0005	Heat Sink, Power	1
627	744JUA0039	Spring, Earth	2
628	761JPA0037	Cabinet, Inside	1
	704JVA0004	Felt, Pad	2
	7230000960	Sheet, Rating	1
629	771JPA0043	Plate, Jack	1
630	761JPA0024	Frame, P.C.Board	1
631	752JSA0121	Shield, Lid	1
632	752JSA0120	Shield, Case	1
633	752JSA0109	Shield Plate, Head Amp	1
634	762JPA0014	Wire Clamp	1
635	762JPA0013	Holder, P.C.Board	1
636	715JPA0007	Holder, Clock	1
637	7230000945	Flap	1
638	899000CP1S	Coating Clip CP-1S	7
640	752JSA0142	Plate, Shield Head	1

■ A-28: REPLACEMENT OF SENSOR LAMP

● REMOVAL

1. Remove reel sensor holder from loading base ①.
2. Remove sensor lamp from PCB.

● FIXING UP

1. Installation should be done in the reverse order.

● NOTE

1. Make sure to connect sensor lamp to proper poles each in fixing up.

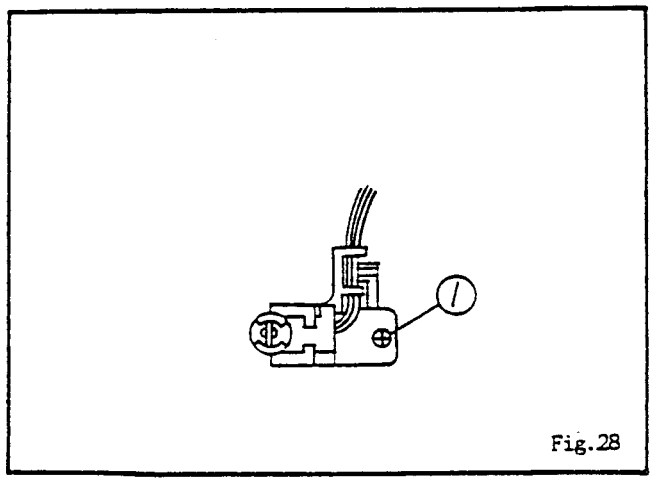


Fig.28

■ A-29: REPLACEMENT OF FLYWHEEL CAPSTAN

● REMOVAL

1. Loosen flywheel holder screw ③.
2. Remove flywheel holder ④.
3. Remove capstan belt ① from flywheel side.
4. Take out flywheel.

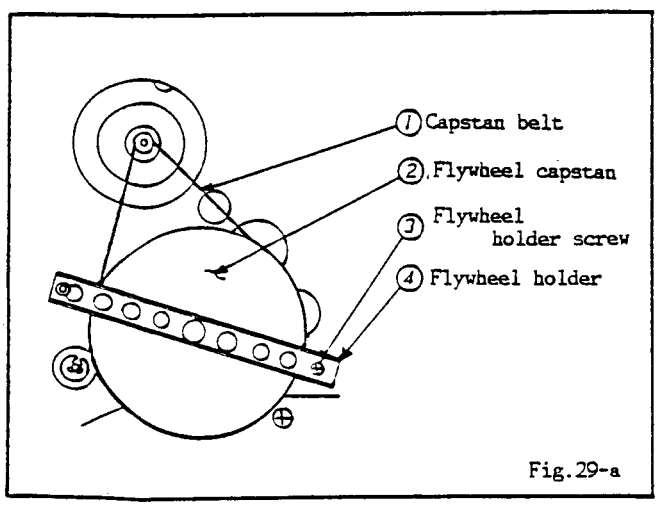


Fig.29-a

● FIXING UP

1. Pour Maruzen Swa fluid No.100 oil into a container which bottom is flat, and which is made of glass or polyethylene, about 3mm from bottom.
   Dip the tip of capstan shaft about 3mm. Refer to **Fig. 29-b.**
2. Put a polyslider washer (ϕ 3.6 x 7 x 0.5t) through the capstan shaft.
3. Insert capstan shaft into metal.
4. To install it, follow the steps mentioned above in the reverse order.
5. After 4, turn the deck to front and wipe the excessive oil on capstan s haft.
   Two thirds of the shaft from tip should be wiped with tissue for industrial use soaked in ethylene alcohol.
6. Let oil (Swa fluid #100) soak in oil stuck cushion ② and then place it through capstan shaft.
7. Cleanse oil seal with ethylene alcohol and after doing so, insert it through the capstan shaft.

● NOTE

1. Take out the flywheel carefully so that the metal will not be scratched and dust will not stick to it.
2. An oil seal is put in through capstan shaft be careful not to loosen it.
3. After replacement of flywheel, check wow.

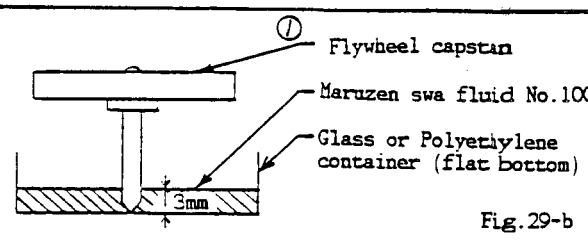


Fig.29-b

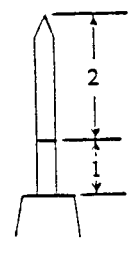


Fig.29-c

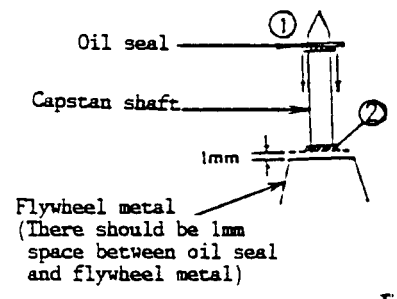


Fig.29-d

■ A-30: CAPSTAN BELT REPLACEMENT

● REMOVAL

1. Loosen flywheel holder screws ①.
2. Bring the flywheel holder to its preliminary position.
3. Take the belt from the flywheel side when you replace it.

● FIXING UP

1. When hanging the belt, the mark should come first against the direction of the movement of flywheel.
2. After the hanging is done, apply paint on flywheel holder screws.

● NOTE

1. After replacement of the belt, check wow and speed.

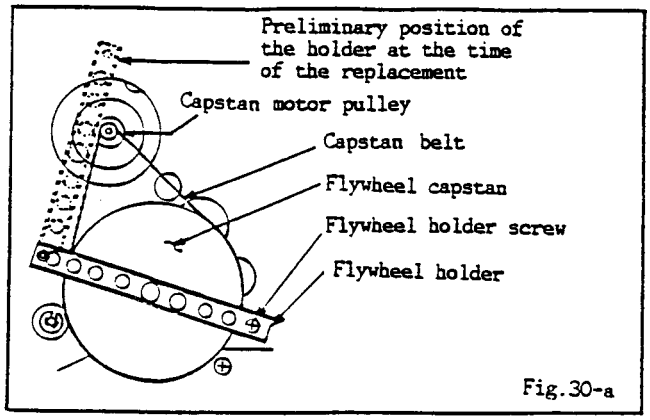


Fig.30-a

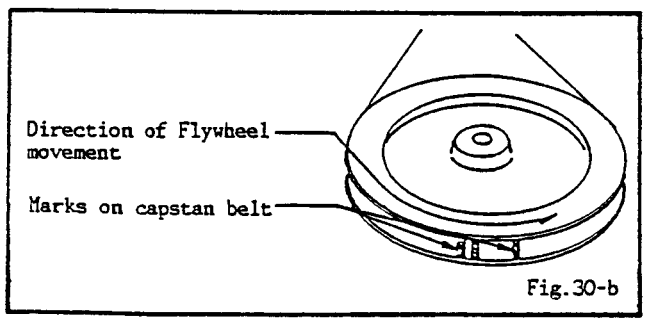


Fig.30-b

■ A-31: REPLACEMENT OF LOADING MOTOR

● REMOVAL

1. Disconnect loading motor leads. (+ Brown, - Black)
2. Loosen loading motor bracket fixing screw ②.
3. Remove motor fixing screw ③.
4. Remove warm gear which has been forced to place through motor shaft.

● FIXING UP

Installation should be done in the reverse order.

● NOTE

1. Make sure to attach loading motor leads to correct poles each other.

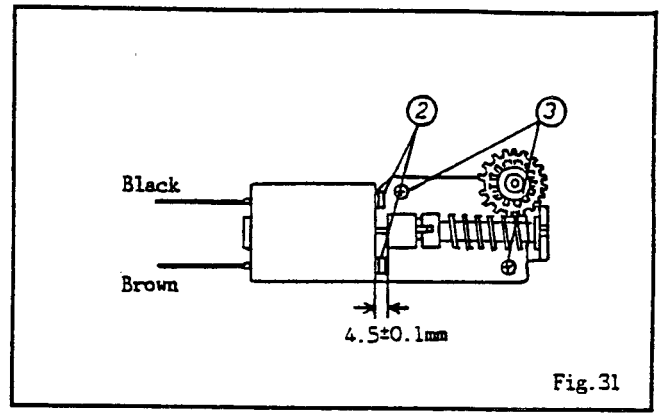


Fig.31

■ A-33: REPLACEMENT OF CAM GEAR AND FAN SHAPED GEAR

● REMOVAL

1. Remove loading gear plate screw ① to remove gear plate.
2. Pull out fan shaped gear.
3. Pull out cam gear.

● FIXING UP

1. Installation should be done in the reverse order.

● NOTE

1. Molykote grease is applied on edge, ditch and shaft of cam gear. So after the replacement, apply the grease at these places.
2. At the time of replacement, be careful that the point hole of cam gear may come on the set line shown in Fig. 33-b.
3. Cam gear has front and back, so be careful.
4. Installation of fan shaped gear should be done in a manner that the point of the gear may match with loading gear (L) when it is turned in connection with loading gear (R) which should be turn ed in the counter-clockwise direction (arrow in Fig. 33-d.)

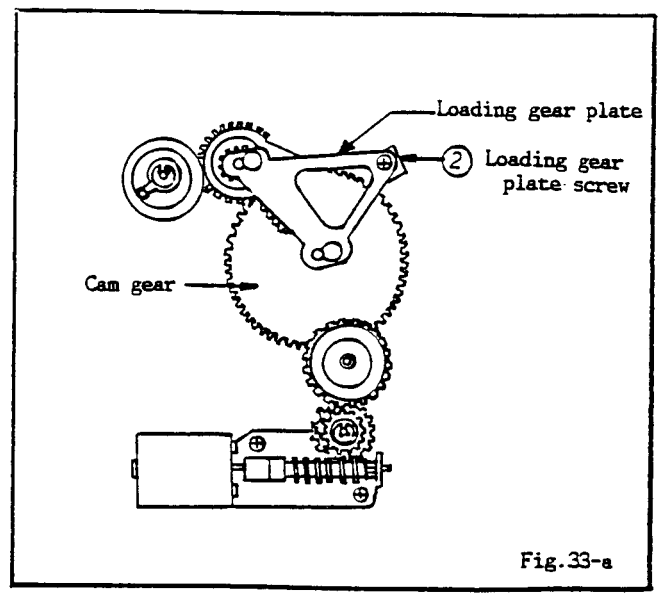
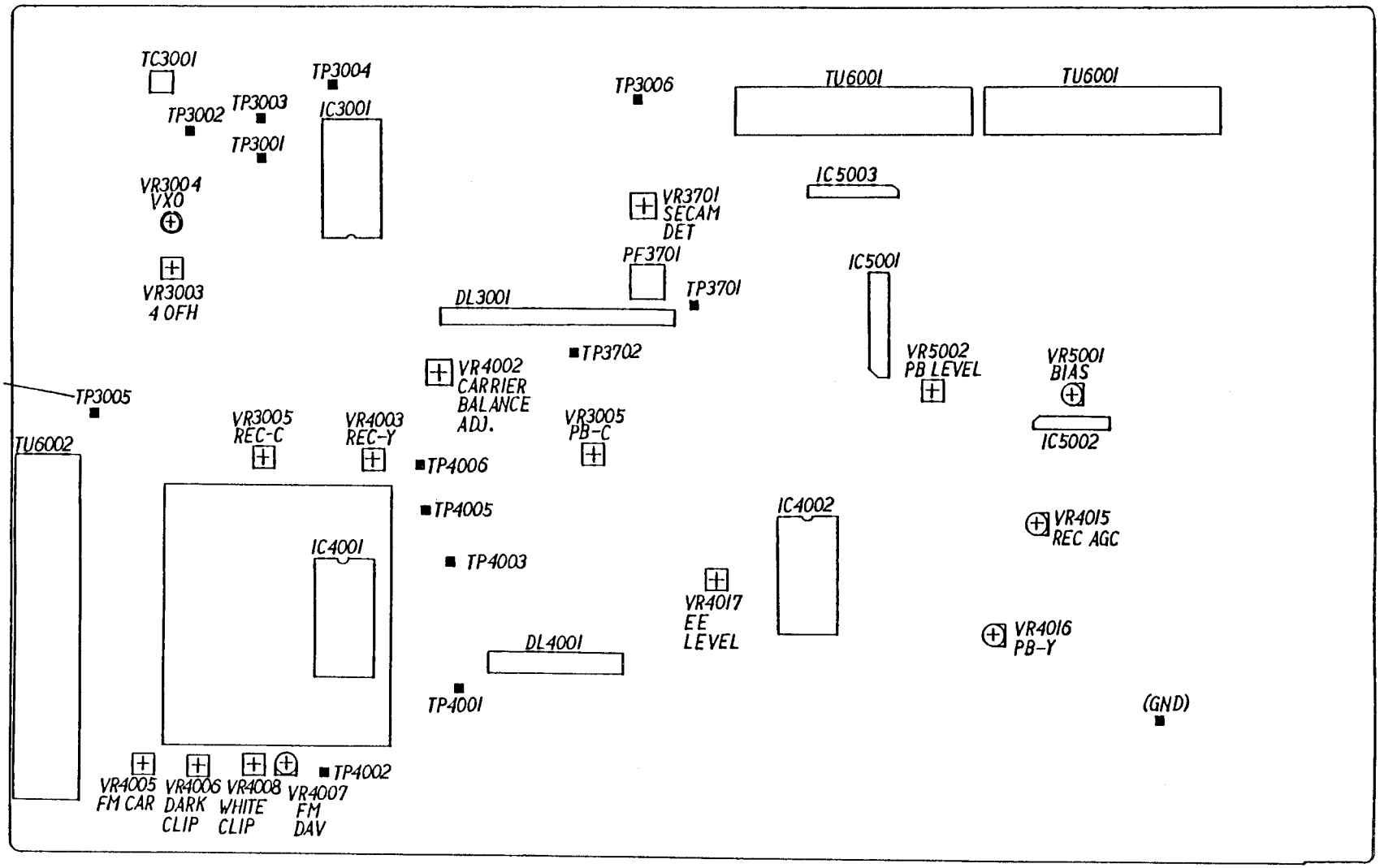


Fig.33-a

SPECIFICATIONS

Power Source:	220V 50Hz
Power Consumption:	Approx. 35 watts
Temperature:	5°C to 40°C
Television System:	CCIR: 625 lines, 50 fields PAL or SECAM/DDR color signal
Video Recording System:	2 rotary heads, helical scanning system Luminance: FM azimuth recording Color signal: converted subcarrier phase shift recording
Audio Track:	1 track
Tape Format:	Tape width 12.7 mm high density tape
Tape Speed:	23.39 mm/s
Record/Playback Time:	240 min. with E-240
FF/REW Time:	Less than 7.5 min. with E-240
Heads:	Video: 2 rotary heads Audio/Control: 1 stationary head Erase: 1 full track erase
Input Level:	Video: VIDEO IN connector (BNC) 1.0 Vp-p, 75 ohm unbalanced Audio: LINE IN jack -10 dB, 50 kohm unbalanced
Output Level:	Video: VIDEO OUT connector (BNC) 1.0 Vp-p, 75 ohm unbalanced Audio: LINE OUT jack -6 dB, 600 ohm unbalanced
RF Output Channel:	36 (±2)



In adjustment, set up the test point out of patlern side since TP3005 is not inserted in same set.

Y.C.A. P.C.BOARD

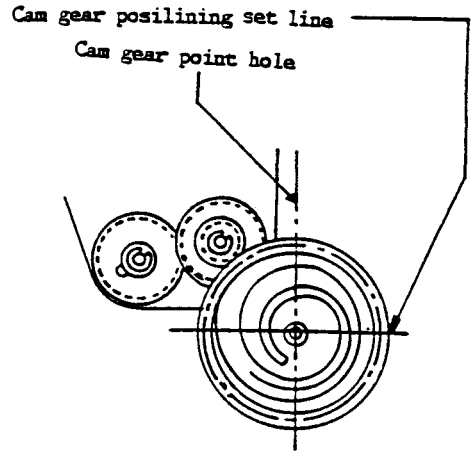


Fig.33-b

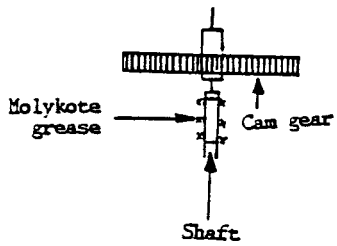


Fig.33-C

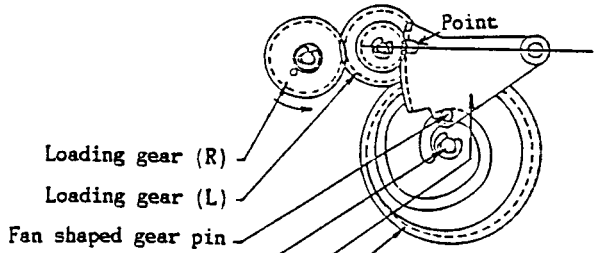


Fig.33-d

Remove the following parts to start working before operating electric adjustment.

1. Top Cabinet (4 pieces of screws)
2. Bottom plate (5 pieces of screws)

Prepare the following measurement tools for the electrical adjustment.

1. Power Supplier
2. DC Voltmeter
3. Oscilloscope (2 channel type)
4. Color Bar Generator (PAL)
5. Frequency Counter
6. AC Voltmeter
7. AC Vaccum Tube Voltmeter
8. Low Frequency Oscillator

Fix up in reverse order of removal after adjustment.

ADJUSTMENT SPECIFICATION

ADJUSTMENT PROCEDURE

■ **E-4: P.G. Shifter Adjustment**
(Servo and video circuits)

CONDITIONS

MODE - Play
Input signal - Standard tape

* Tracking control should be set at click point.

INSTRUCTIONS

(1) Connect CH-2 of oscilloscope to **TP3005** of servo circuit and CH-1 to **TP2006** of video circuit and then play back the tape.
(2) Adjust **VR2003** and **VR2004** so that waveform of oscilloscope may become 5.5 ±0.5(H) at both leading and trailing edges as **Fig. 4-a, b.**

■ **E-5: REC Shifter Adjustment**
(Servo and video circuits)

CONDITIONS

MODE - RECORD
Input signal - B/W or color bar signal

INSTRUCTIONS

(1) Connect CH-2 of oscilloscope to **TP3005** of servo circuit and CH-1 to **TP2006** of video circuit and then make it to recording condition.
(2) Make sure that waveform of oscilloscope may become 6.5 ±0.5 (H) at leading edge as **Fig. 5.**

CHART/CHARACTERISTICS

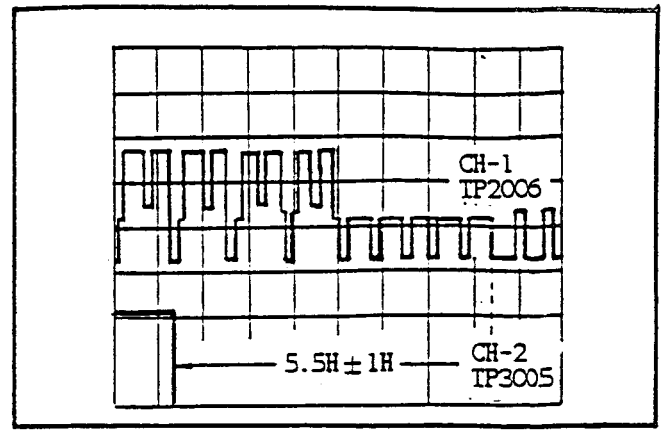
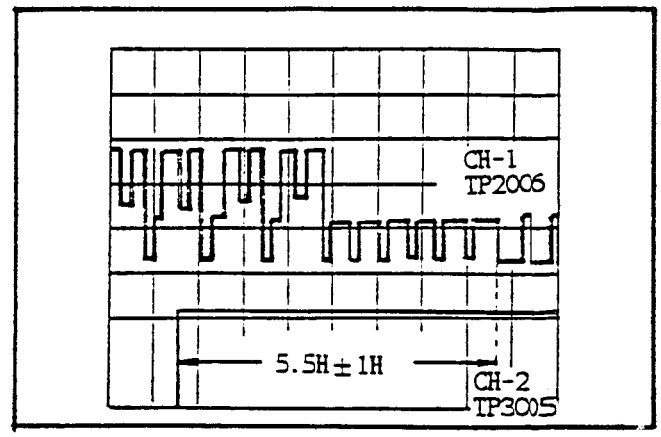
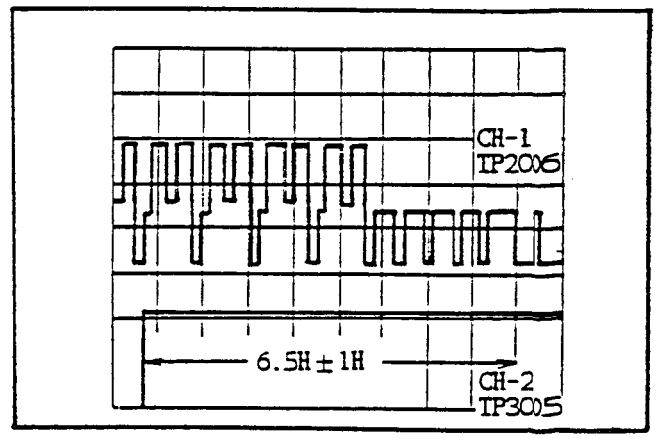


Fig.4-a



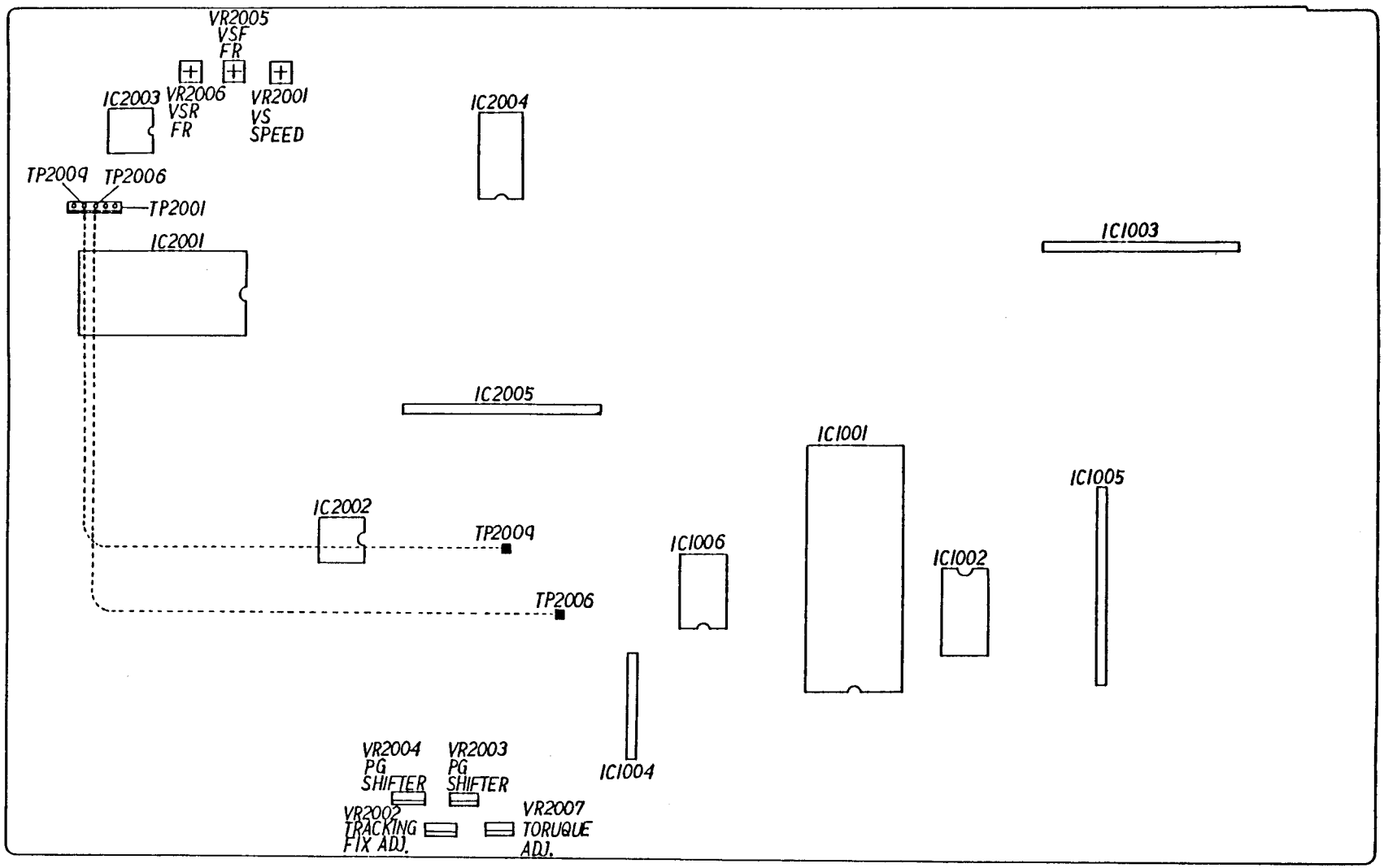
0.1V(CH-1)0.5V(CH-2)5ms(Delay 50us)/div

Fig.4-b

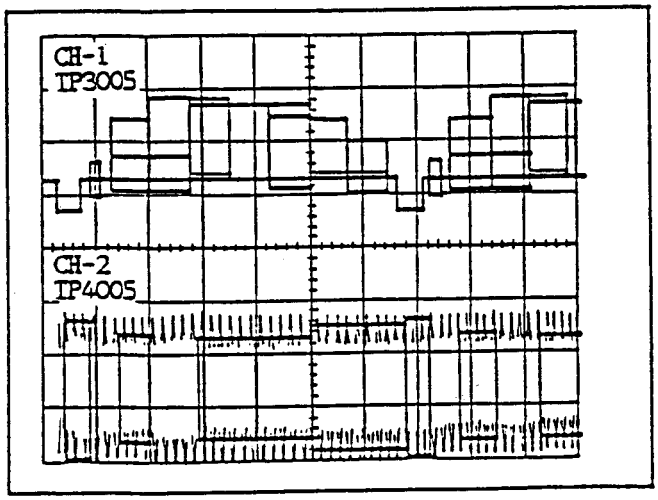


0.1V(CH-1)0.5V(CH-2)5ms(Delay 50us)/div

Fig.5



SYSCON SERVO P.C.BOARD



50mV10us/div

Fig.17-b

■ E-18: Playback Level Adjustment

CONDITIONS

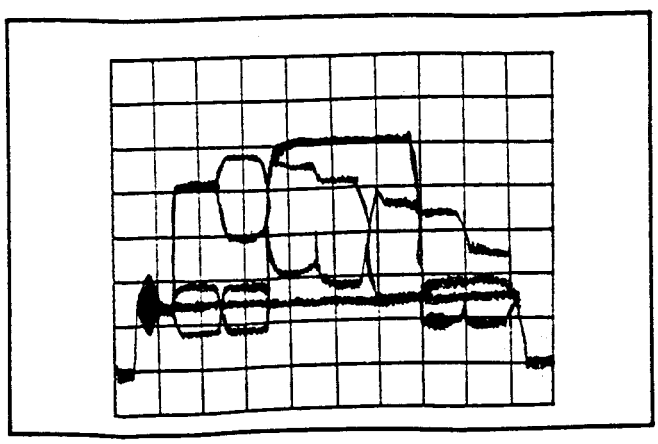
MODE - RECORD then PLAY BACK
Input signal - Color bar signal

INSTRUCTIONS

Record the input signal and playback. Connect oscilloscope to **TP3005**. Adjust **VR4006** so that the signal may become 1.0 ±0.05 (V).
Next, adjust **VR3005** so that magenta color level may become 550 ±50 (mV).

NOTE
The above adjustment values are measured with the video output jack terminated with 75 ohm resistor.

CHART/CHARACTERISTICS



0.2V10us/div

Fig.18

■ E-19: Audio Bias Current Adjustment

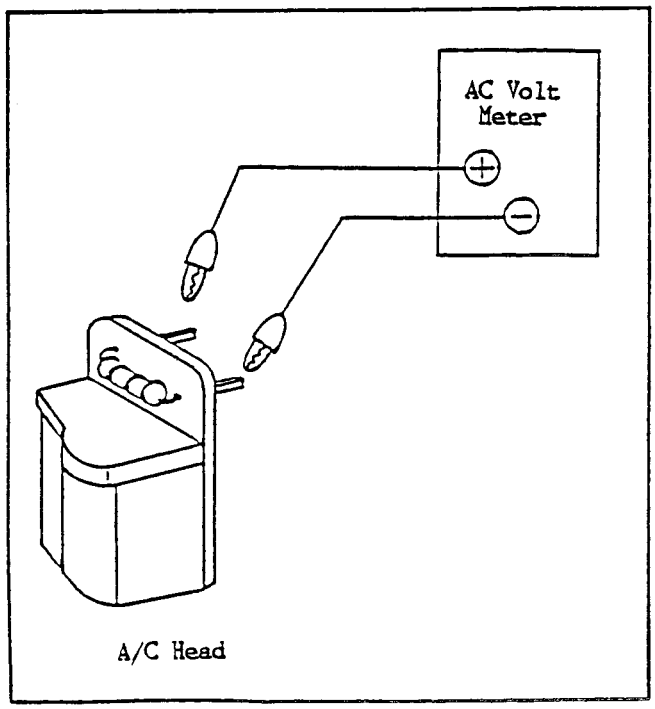
CONDITIONS

MODE - RECORD
Input signal - No signal

INSTRUCTIONS

Connect AC voltmeter to test point on A/C head P.C.Board. Adjust **VR5001** so that voltage may become 3.0 ±0.1 mVrms.
After adjustment, lift up the shield plate.

CHART/CHARACTERISTICS



■ E-20: Audio Play Back Level Adjustment

CONDITIONS

MODE - Self record and play back
Input signal - 1KHz 0.3Vrms, Audio signal

INSTRUCTIONS

Connect AC voltmeter to audio out jack, which is terminated with 47K ohm resistor.
Record and then play back the audio signal so specified. Adjust **VR5002** so that the play back output may become 500±20 mVrms.

■ E-26: Carrier Balance Adjustment

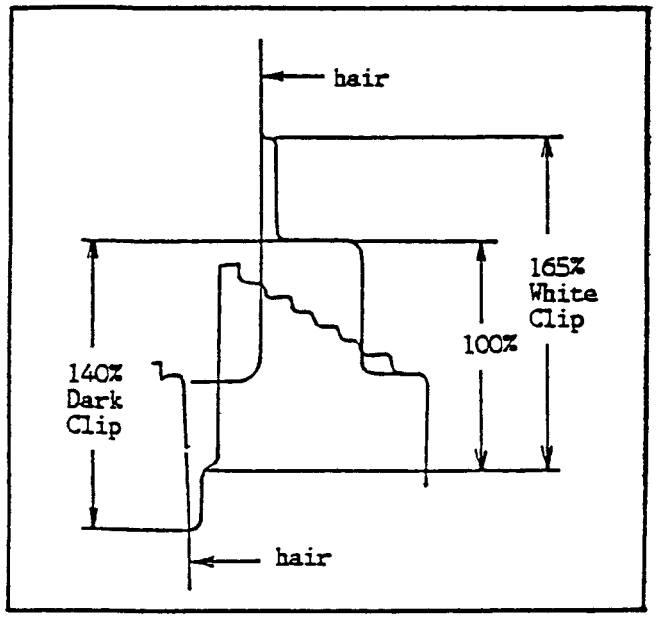
CONDITIONS

MODE - PLAYBACK
Input signal - Color bar tape

INSTRUCTIONS

By using monitor TV, adjust **VR4002** so that meshes in cyan portion on monitor screen may disappear.
Or, by watching video out using oscilloscope, adjust **VR4002** so that noise of output waveform may become smallest. **(Fig. 26)**.

CHART/CHARACTERISTICS



* Do not operate this adjustment very often.

■ E-16: Sync. Tip Div. Adjustment

CONDITIONS

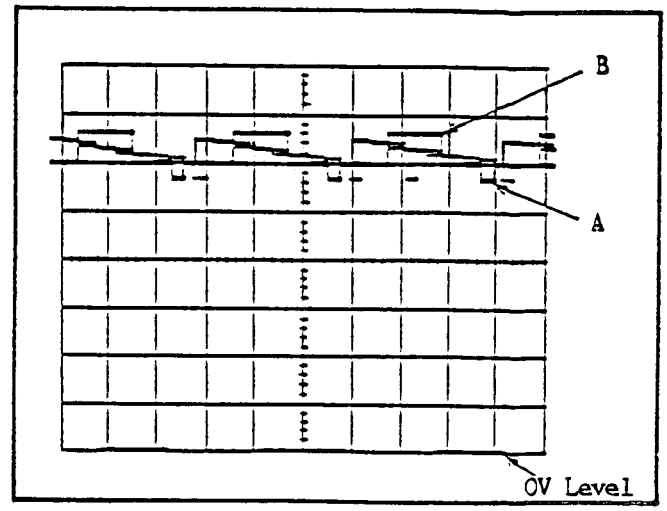
Input signal - Color Bar
MODE - RECORD

Input signal - No signal
MODE - RECORD

INSTRUCTIONS

(1) Disconnect the soldered part of shield plate on P.C.Board. Condition should be record mode with color bar signal. Connect oscilloscope to 19th pin of IC4001 (LA7033).
(2) Set the oscilloscope to DC mode and measure voltages at [A] and [B] points.
(3) Condition should be record mode with no signal. Connect plus (+) side of DC supply to 18th pin of IC4001 (LA7033) and GND side should be connected to GND side of VCR unit.
(4) Bring voltage value of DC supply to same as that of [A] point, measured at step 2 above. Connect frequency counter to TP4006 and adjust VR4005 so that it may become 3.8 MHz ±50 KHz.
(5) Increase DC supply value up to that of [B] point, measured at step 2 above. Adjust VR4007 so that it may become 4.8 MHz ±50 KHz.
(6) Check step 4 again.
(7) Connect the shield plate.

CHART/CHARACTERISTICS



1V10us/div

Fig.16

■ E-17: Record Current Adjustment

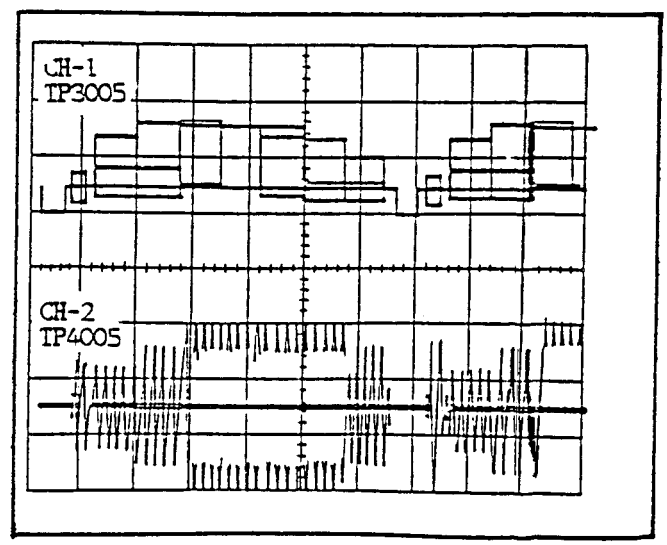
CONDITIONS

MODE - RECORD
Input signal - Color bar

INSTRUCTIONS

Connect CH-1 of oscilloscope to TP3005 and CH-2 to TP4005. Reduce brightness signal factors by turning VR4001 to fully C.C.W.
Adjust VR3002 so that cyan level may become 28 ±2 mVp-p, as Fig. 17-a.
Adjust VR4001 so that horizontal sync. level may become 130 ±5 mVp-p, as Fig. 17-b.

CHART/CHARACTERISTICS



10mV10us/div

Fig.17-a

■ E-12: E-E Level Adjustment

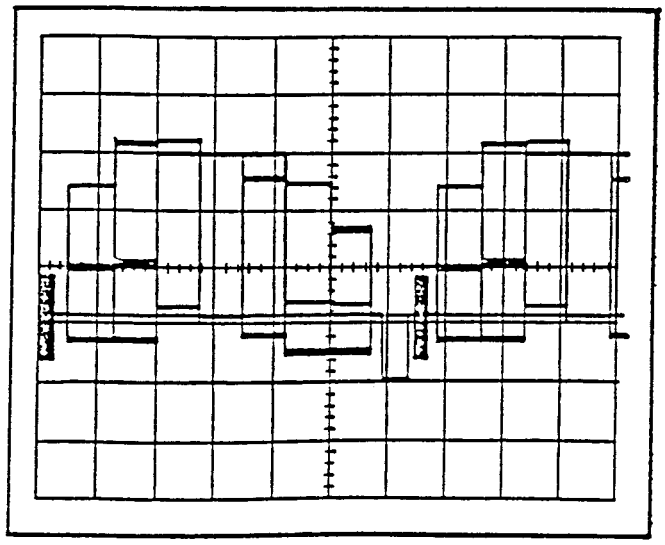
CONDITIONS

MODE - STOP
Input signal - Color bar

INSTRUCTIONS

Connect oscilloscope to **TP3005** of luminance circuit. Adjust **VR4017** so that waveform may become 2.0Vp-p as **Fig. 12.**
Tolerance of adjustment is 2.0 ±0.1 V.

CHART/CHARACTERISTICS



0.5V10us/div

Fig.12

■ E-13-1: Standard Oscillation Frequency Confirmation
(Chrominance Circuit)

CONDITIONS

MODE - STOP

NOTE
Use high impedance probe.

INSTRUCTIONS

(1) Connect frequency counter to **TP3003.**
(2) Adjust **TC3001** so that the counter indicates 4.435572MHz ±20Hz.

■ E-13-2: 40 fH Frequency Adjustment
(Chrominance Circuit)

CONDITIONS

MODE - RECORD
Input signal - Color bar

INSTRUCTIONS

(1) Short **TP3002** and **TP3004** (+B) by jumper wire.
(2) Connect frequency counter to **TP3001** and adjust **VR3003** (10KB) so that counter may indicates 625 ±5KHz.

■ E-14: VCO Frequency Adjustment
(Chrominance Circuit)

CONDLSTIONS

MODE - PLAY
Input signal - Color bar test tape

* Use high impedance probe for input of counter.
Proportion should be 10:1 when using oscilloscope probe.

INSTRUCTIONS

Connect frequency counter to **TP3006.**
Playback the test tape (color bar) and adjust **VR3004** to make 4.433619 ±10 MHz.

■ E-15: Adjustment of Dark Clip and White Clip

CONDITIONS

Supply color bar signal to video input jack and set the unit to recording condition.

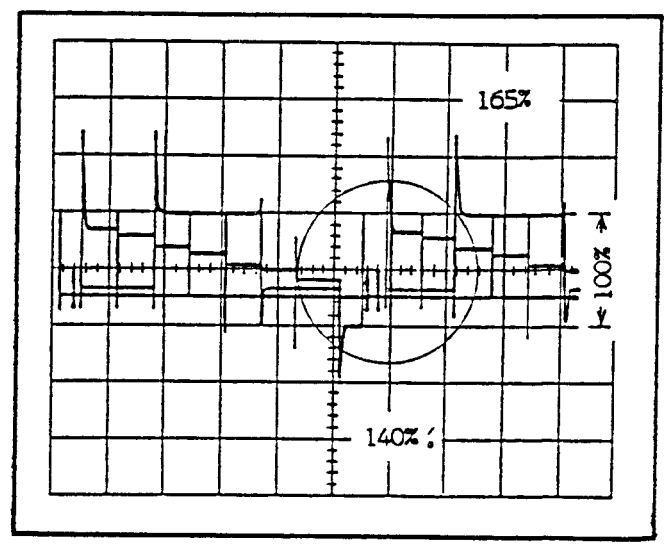
NOTE
Hairs of overshoot and undershoot should not be taken into account.

INSTRUCTIONS

Connect oscilloscope to **TP4001** and adjust **VR4008** and **VR4006** so that waveforms may become as **Fig. 15.**

VR4008 -- White Clip (165±5%)
VR4006 -- Dark Clip (140±5%)

CHART/CHARACTERISTICS



0.2V10ms/div

Fig.15

■ E-6: Tracking Fix Adjustment
(Servo circuit)

CONDITIONS

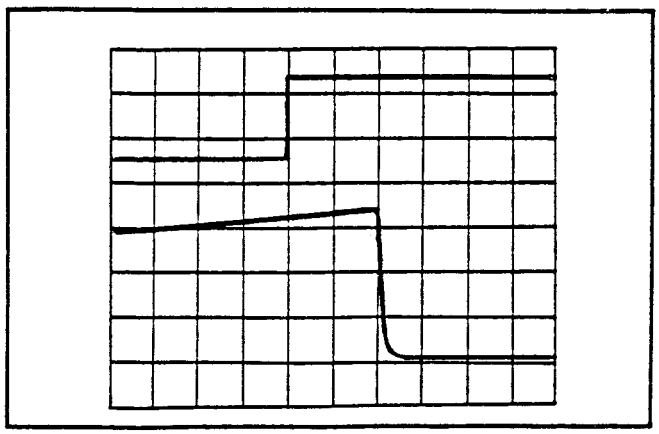
MODE - 2H (SP) RECORD then PLAY
Input signal - Video signal to video input

* Tracking control should be set at click point.

INSTRUCTIONS

(1) Connect CH-1 of oscilloscope to TP2006 of servo circuit and VH-2 to TP2009 of the same circuit, and make recording for a while.
(2) Play back the recorded portion and adjust VR2002 so that "T" portion may become 2.0 ±0.5 (ms) as Fig. 6.

CHART/CHARACTERISTICS



5V(CH-1)1V(CH-2)1ms/div

Fig.6

■ E-7: VS Speed Adjustment
(Servo circuit)

CONDITIONS

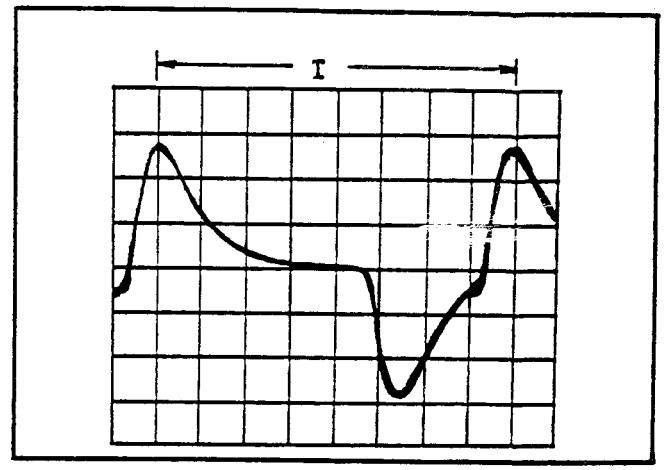
MODE - PLAY -- VSF or VSR
Input - Color bar tape

INSTRUCTIONS

(1) Playback the designated tape. After that make it VSF or VSR condition.
(2) Connect CH-1 of oscilloscope to 20 pin of Adjust VR2001 so that "T" portion of waveform may become 8.0 ± 0.5ms. (Fig. 7)

NOTE
Noise bar should be rolling or be stopped.

CHART/CHARACTERISTICS



0.2V1ms/div

Fig.7

■ E-11: REC A.G.C. Level Adjustment

CONDITIONS

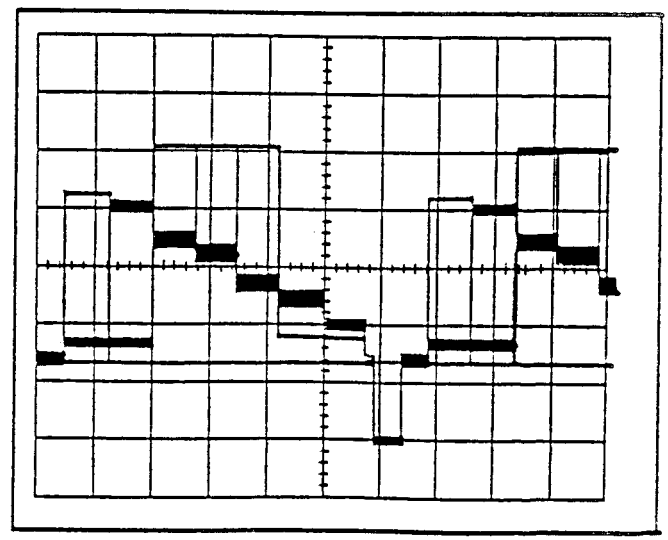
MODE - STOP
Input signal - Color bar

NOTE
Before measuring, do not fail to check signal level of color bar generator.

INSTRUCTIONS

Connect oscilloscope to TP4002 of luminance circuit. Adjust VR4015 so that the waveform may become 1Vp-p as Fig. 11.
The tolerance of adjustment is 1.0 +0.1, -0V.

CHART/CHARACTERISTICS



0.2V10us/div

Fig.11

■ E-27: VS Cylinder Free Run Adjustment

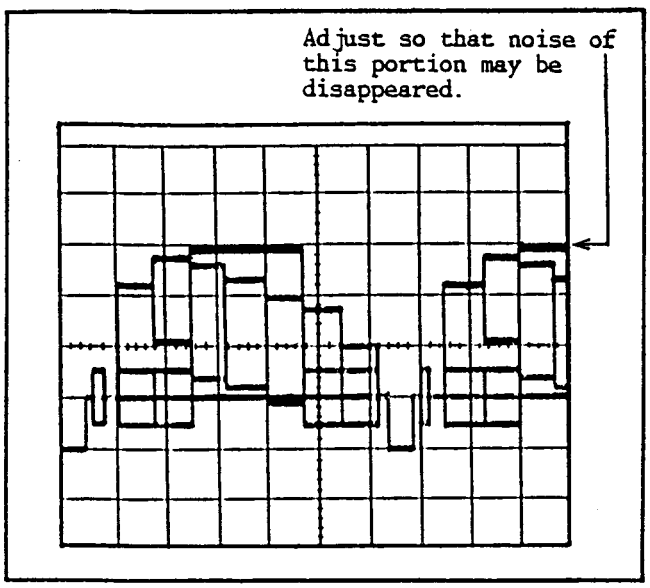
CONDITIONS

MODE - PLAY -- VSF -- VSR
Input signal - Color bar tape

INSTRUCTIONS

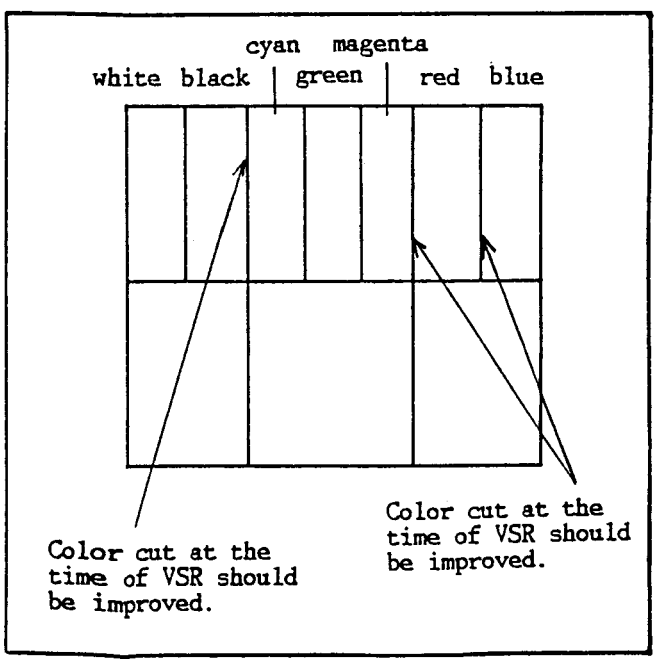
By using monitor TV, adjust **VR2005** so that color cut of yellow and cyan may be improved, at the time of VSF.
Likewise, adjust **VR2006** so that color cut of green and magenta may be improved at the time of VSR. **(Fig. 27)**

CHART/CHARACTERISTICS



0.5V10us/div

Fig.26


cyan magenta
white black green red blue
Color cut at the time of VSR should be improved.
Color cut at the time of VSR should be improved.

MONITOR TV

Fig.27

■ E-28: SECAM Identification Adjustment (Chrominance circuit)

CONDITIONS

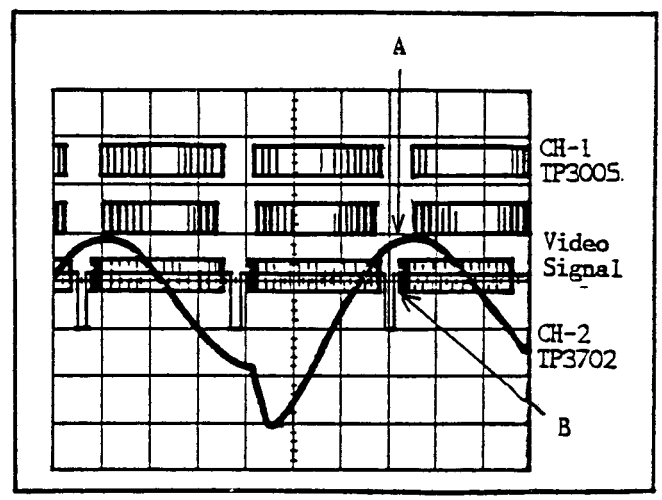
MODE - RECORD
Input signal - (SECAM) Video RF SECAM signal

SECAM Input Level 37dB
SECAM Input Level 35dB
PAL Input Level 40dB

INSTRUCTIONS

(1) Connect CH-1 of oscilloscope to **TP3005** of luminance circuit, and CH-2 to **TP3701** of chrominance circuit.
(2) Adjust **PF3701** so that peak of waveform A and leading edge of video signal of waveform B may become same as per **Fig. 28.**
(3) Connect CH-2 of oscilloscope to **TP3702** of chrominance circuit.
(4) When SECAM 37dB signal is input, adjust **VR3701** so that it may become high (8V) level. Next change input level to 35dB and confirm it becomes low (0V) level. Confirm it becomes high level (8V) again when SECAM 37dB is input after readjustment of **VR3701.**
(5) Next, confirm it becomes low (8V) level when PAL 40dB is input.

CHART/CHARACTERISTICS



20us/div

Fig.28

■A-24: REPLACEMENT OF REEL BRAKE UNIT

●REMOVAL

1. Remove take-up and supply reel disks according to routine of ●REMOVAL in ■A-1.
2. Remove reel PCB from reel brake unit and then take off solder bridge on reel brake.
3. Remove attachment screws ⑩ to reel brake unit.
   Refer to Fig. 22.
4. Remove GEAR B.
5. Remove attachment screws ⑪ to reel brake unit.

●FIXING UP

1. Fix up reel brake unit for replacement according to the opposite routine to ●REMOVAL.

●NOTE

1. Work ●CONFIRMATION and ●ADJUSTMENT in ■A-1, 3, 4, 5 and 15 after replacement of reel brake units.

■A-25: REPLACEMENT OF CAPSTAN MOTOR ASSEMBLY

●REMOVAL

1. Remove capstan belt.
2. Disconnect the lead wires of motor.
3. Remove three pieces of screws from capstan motor assembly.

●FIXING UP

1. Fix up capstan motor according to the opposite routain to ●REMOVAL.
2. After cleaning capstan belt, capstan pulley and capstan flywheel, hang capstan belt.

●NOTE

1. Refer to Fig. 25 for position and wiring to fix up capstan motor Ass'y.
2. Clean the capstan belt, capstan motor pulley, flywheel and around the capstan after fixing up capstan motor Ass'y.
3. Work the electric adjustment, capstan free-run ■E3 after replacement of capstan motor Ass'y.

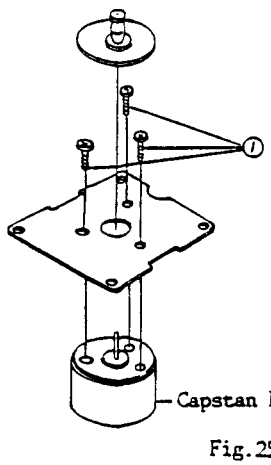


Fig.25-a

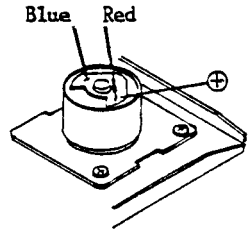


Fig.25-b

■A-26: REPLACEMENT OF CYLINDER UNIT

●REMOVAL

1. Remove video head shield plate on video P.C.B., and disconnect video head lead connector.
2. Disconnect connectors on cylinder P.C.B.
3. Remove heater lead wires of cylinder from terminal P.C.B.
4. Remove the cylinder unit by loosening the screws ①, ②.

●FIXING UP

1. Carry out the above in the reverse order to fix the unit.

●NOTE

1. Do not touch cylinder head surface.
2. Work ●CONFIRMATION in ■A-20 again.

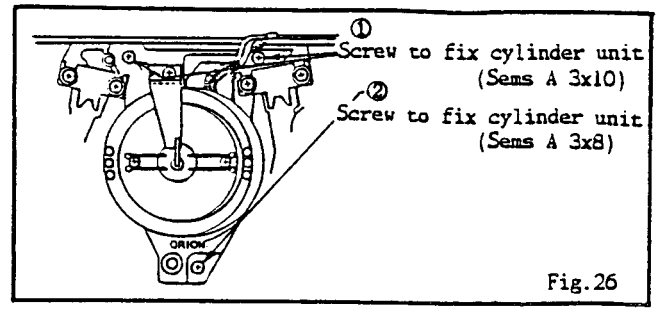


Fig.26

■A-27: REPLACEMENT OF TENSION BAND

●REMOVAL

1. Loosen the tension band fixing screws ①, ②.
2. Take brake arm spring off the tension band metal.

●FIXING UP

1. The installation shall be done in reverse order.

●NOTE

1. Work ●ADJUSTMENT in ■A-12 after fixing up the tension band.

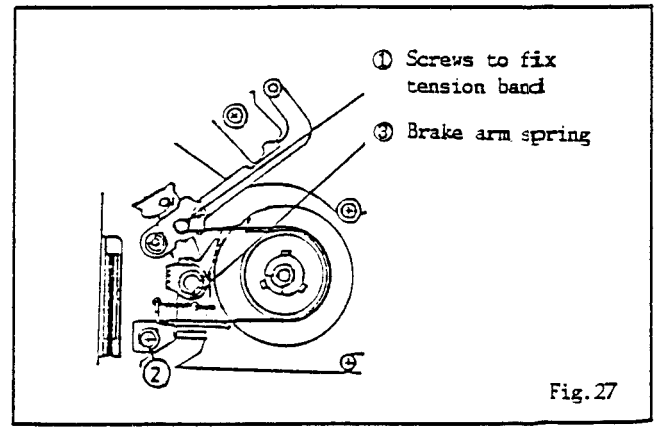


Fig.27

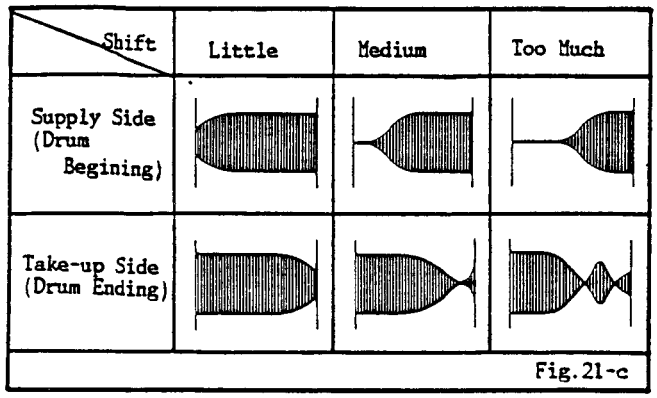


Fig.21-c

7. Adjust guide roller height while observing the envelope, and make envelope flat. Adjust the envelope so that the flatness will not be affected even tracking control knob is turned.
8. When tracking control knob is turned, adjust envelope so that its A:B ratio is better than 10:7 at where waveform starts to reduce at A. (Fig. 21-d)
9. Make adjustment of ■E-4 P.G. shifter point as per play SW point of electrical adjustment.
10. Record color bar and play back, to confirm envelope is flat.
11. After that, carry out confirmation of envelope.

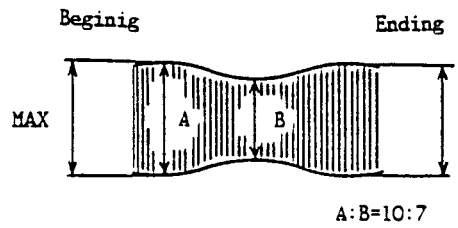


Fig.21-d

● NOTE

In case the guide roller has been adjusted, work ●ADJUSTMENT in ■A-18 again.

■A-22: REPLACEMENT OF REEL MOTOR

● REMOVAL

1. Disconnect the lead wire for the Reel Motor from it.
2. Remove the attachment screw ⑧ for the Reel Motor.

● FIXING UP

1. Fix up reel motor according to the opposite routine to ●REMOVAL.

● NOTE

1. Make sure to attach lead wires on reel motor terminal to correct poles each other in case reel motor is soldered.
2. Clean the reel idler after fixing up reel motor.
3. Work ●CONFIRMATION and ●ADJUSTMENT in ■A-3, 4 and 5 after fixing up reel motor.

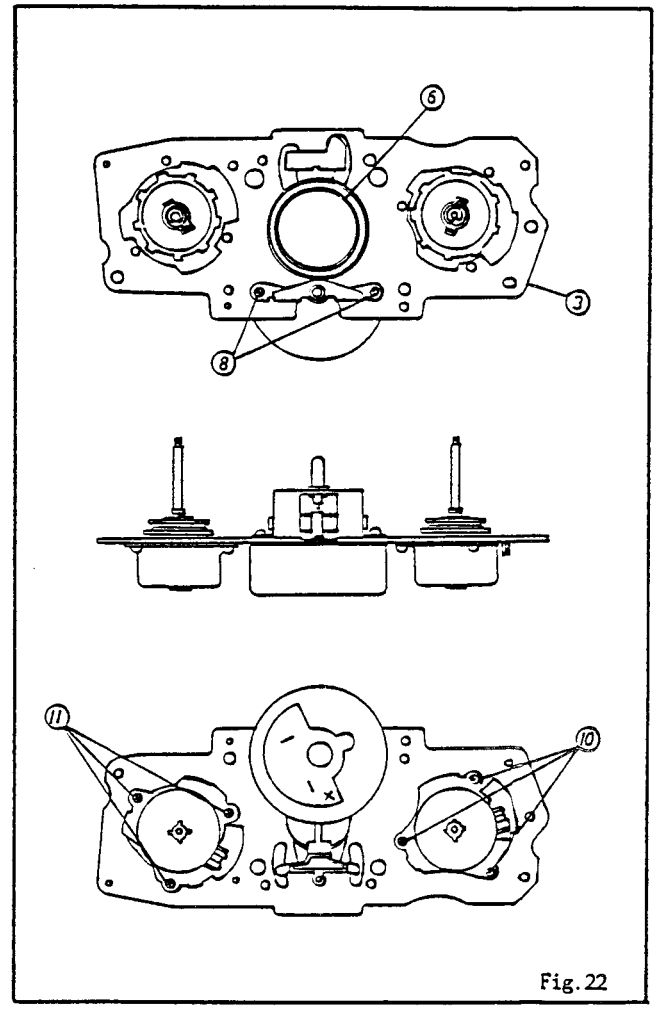


Fig.22

■A-23: REPLACEMENT OF REEL IDLER

● REMOVAL

1. Work item 2 of ●REMOVAL in ■A-22.
2. For removal of reel idler, move the reel idler to center of reel chassis, draw it toward you and then draw it up.

● FIXING UP

1. Hook reel idler spring correctly up reel idler and set reel idler in reel chassis and then, fix up reel idler according to the opposite routine to ●REMOVAL.

● NOTE

1. Make sure not to change the shape of reel idler spring change.
2. Make sure not to cut lead wire at reel motor.

■A-20: REPLACEMENT OF UPPER DRUM

●REPLACEMENT

1. Remove two fixing screws ⑤ using plus (+) driver.
2. Remove V Head lead wires press plate ⑥.
3. Disconnect lead wires ① (two, yellow).
4. Disconnect lead wire ② (one, red).
5. Disconnect lead wire ③ (one, brown).
6. Remove two fixing screws with flat washers ④ using plus (+) driver.
7. Pull out upper drum in such a way that it will not incline upward and carefully replace in order not to scratch disk.

●FIXING UP

1. Set up new drum as per Fig. 20 and correctly place each lead wire.
2. Fix upper drum by two fixing screws ④.
3. Solder lead wires ①, ② and ③ to thier respective positions.
4. Fix Video Head lead wire press plate ⑥ by fixing screws ⑤, screwing should be done slowly.

●NOTE

1. Fitting clearance between disk outer diameter and drum inner diameter is made in micron order. Scratch or dust can make them hard to fit or to separate them.
   As they can affect badly to the fitness of the drum and disk, pay at tension when you replace them.
2. Do not touch ----------on drum surface directly.
3. Do not apply driver to screw strongly.
4. Unless you have the tool (JG031), you can use gloves.
5. Connect to yellow, brown lead (CH-1) and red, yellow lead (CH-2).
6. Before fixing, confirm that there is no scratch or dust on disk front and surface.
7. Before fixing, confirm that there is no scratch or dust on inside of upper drum and surface.
8. When fixing, put upper drum slowly and carefully so that it will not incline to disk.
9. When setting, take care not to let any dust or dirt go into the clearance between disk and upper drum.
10. Apply driver to screw slowly and carefully screw it.
11. After completion of replacement, do not forget to carry out tape running adjustment and do the following electrical adjustment and confirmations.

    a. ■E-4 P.G. Shifter Adjustment
    b. ■E-5 REC Shifter Adjustment
    c. ■E-6 Tracking Fix Adjustment
    d. ■E-18 Playback Level Adjustment
    e. ■A-21 Guide Roller Adjustment

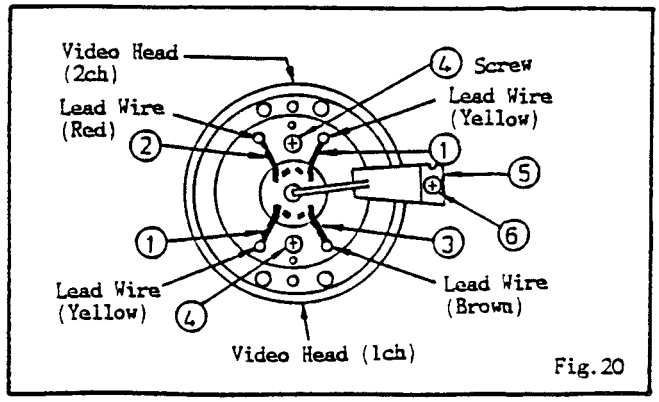


Fig.20

■A-21: ADJUSTMENT OF GUIDE ROLLER

●ADJUSTMENT

1. Insert linear tape into stage.
2. Switch on main power and then connect monitor output cord and video input cord to proper positions each.
3. Connect CH-1 and CH-2 of oscilloscope to envelope output and to test point of switching pulse, respectively.
4. Carry out this adjustment in play back mode.
5. Irrigger with SW pulse and observe envelope (Fig. 21-a).
6. Observe the envelope, adjust guide roller height and let tape run on drum head.
   If video tape is running above or below helical lead position, waveform shall appear as in Fig. 21-b and 21-c.

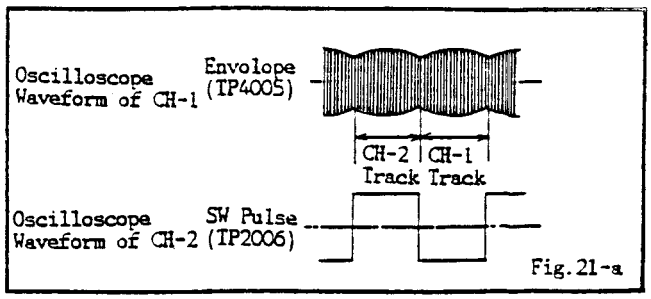


Fig.21-a

a: Envelope waveform when video tape is above helical guide.

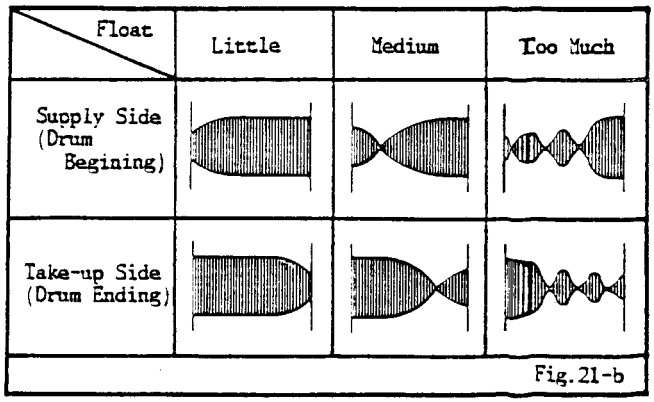


Fig.21-b

b: When video tape is too much down the helical guide.

● NOTE

1. After completion of replacement, do not fail to carry out tape running adjustment. Do not touch head by any means when replacing A/C Head. (Fig. 17-b)

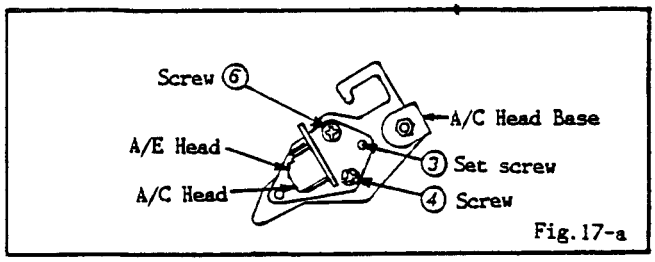


Fig.17-a

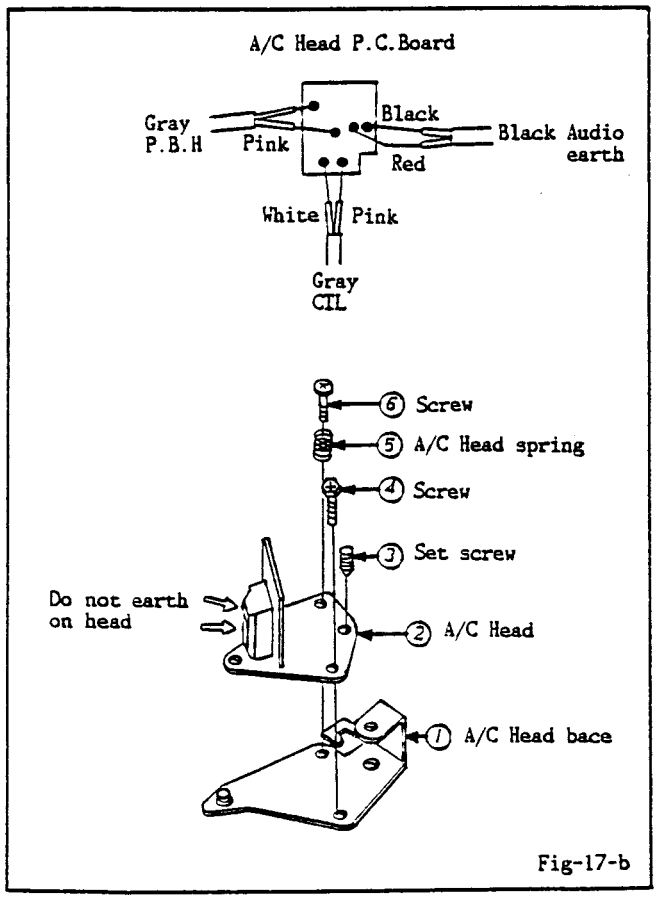


Fig-17-b

■A-18: CONFIRMATION AND ADJUSTMENT OF A/C HEAD HEIGHT AND TILT

● CONFIRMATION

1. Set the unit in play mode using a E-180 tape.
2. Confirm that tape is not curling on flange of guide post.
3. Confirm that height and tilt of A/C Head against tape are as per Fig. 18.

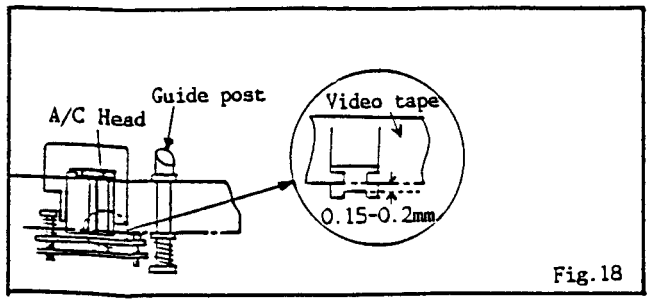


Fig.18

● ADJUSTMENT

In case tape is running abnormally, make the following adjustments (Fig. 17-a and 18).

1. Check tape running condition with the unit in play mode using the E-180 tape.
2. Confirm tape runs smoothly without any crease or bend between guide post and guide roller R.
3. It is absolutely impossible to get satisfactory sound in case tape is distorted between A/C Head and guide post. So confirm tape is not running on flange of guide post and there is not a slightest crease on tape.
4. In case tape is not in good condition, adjust it by ③. Turn ③ little by little. NOTE: Do not move guide post.
5. Height of A/C Head against tape should be as per Fig. 18.

If tape runs smoothly around A/C Head and rough adjustment of height is done, carry out height and azimuth adjustment of A/C Head using linear tape (JG001).

1. Play back audio 6KHz (picture is color bar) linear tape (JG001) and observe the waveform at Audio output terminal with oscilloscope.
2. Turn set screw ④ little by little, making the level to be maximum.
   When the level becomes maximum, set screws where level variation is the smallest. (Fig. 17-a)
3. Re-check tape running adjustment. (■A-19)

■A-19: TAPE RUNNING ADJUSTMENT

● ADJUSTMENT

1. Carry out reel disk height adjustment using master plane (JG022) and reel table height chip JG024.
2. Carry out height confirmation and adjustment of P1 post and guide post using fixed jig (JG029) in accordance with paragraph ■A-16.
3. In accordance with ■A-12 and ■A-13, carry out positioning and confirm that the tension pole is vertical with the tension pole positioning jig (JG029).
4. Playback the rough adjustment tape and make rough adjustment of guide r oller height with the tool (JG021) according to ■A-21 and then, match lowe r edge of tape to drum lead and further, make sure that video tape does not curl on flange of the guide post.
5. In accordance with ■A-21, play the linear tape and adjusting guide roller height so that envelope becomes flat and that flatness will not be affected even tracking control knob is turned, and at the same time, adjust REC shifter in ■E-5 to 6.5H±1H.
6. In accordance with ■A-18, adjust A/C Head height, tilt and azimuth.
7. Position tracking control knob at preset and turn adjust nut X a little as in Fig. 17-a so that envelope becomes maximum. Adjust position of A/C Head.
8. Carry out confirmation of flatness of envelope and voice by self recording. The test signal is necessary as output signal in working that.
9. After completion of adjustment, fix each adjustment screw and nuts etc. with paint.

■A-15-2: Confirmation of strong brake torque on supply and take-up side.

●CONFIRMATION

1. Unplug from power source and connect jumper wire between ⑦ pin of CP1010 on syscon PCB and ground.
2. Release reel idler away from supply (Fig. 15-c) or take-up (Fig. 15-d) reel disk and set torque gauge (JG002F).
3. Plug in power source cord.
4. Turn torque gauge slowly (one turn in a few seconds) clockwise and confirm strong brake torque is more than 300 g.cm and more than twice of medium brake torque.
5. In case take-up reel strong brake is measured, connect jumper wire between ② pin of CP1010 on syscon PCB and ground. Refer to Fig. 15-d.

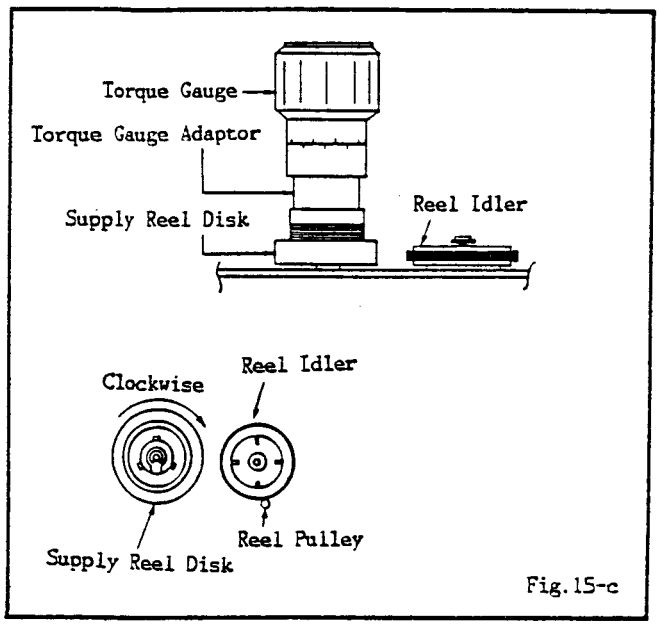


Fig.15-c

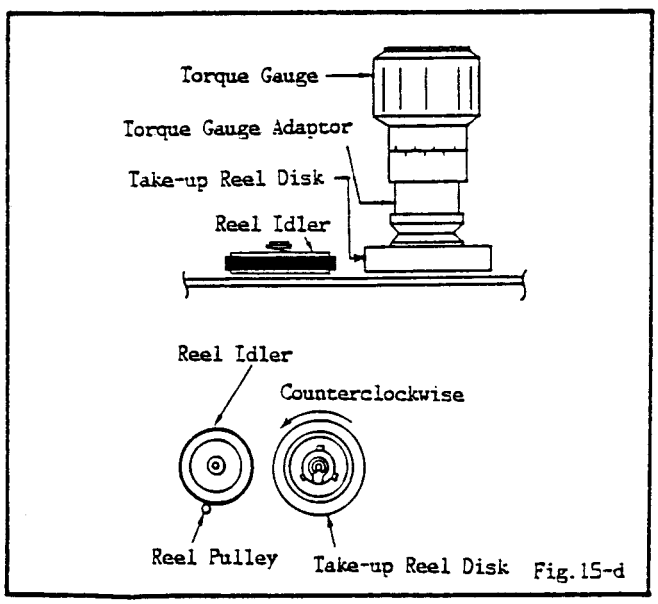


Fig.15-d

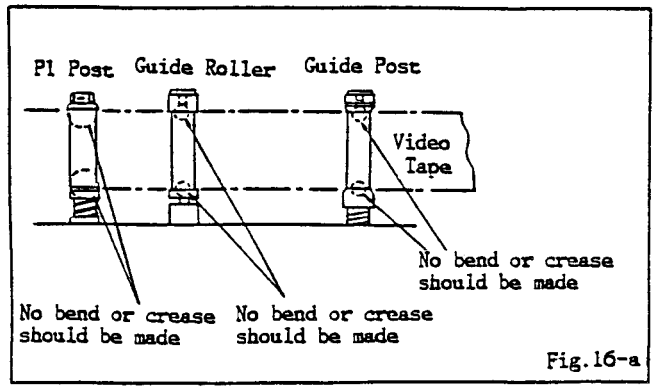
●NOTE

1. Measure within ten seconds after switching on main power and disconnect where shorted after measurement.
2. Carry out measurement of strong brake torque after that of medium brake torque.

■A-16: HEIGHT CONFIRMATION AND ADJUSTMENT OF P1 POST FIXED GUIDE

●CONFIRMATION

Confirm that when tape is running there is no crease or bend on tape edge at the places shown in Fig. 16-a.


P1 Post
Guide Roller
Guide Post
Video Tape
No bend or crease should be made
No bend or crease should be made
No bend or crease should be made
Fig.16-a

●ADJUSTMENT

1. Set height adjustment chip (JG029) on loading base as per Fig. 16-b.
2. Turn slowly the fixed guide and the adjusting nut on top of P1 post by box driver (5.5) respectively, adjusting to the set-up points (e1=13.68 + 0.1 - 0, 2=26.35 + 0.1 - 0).

●NOTE

1. The follwing adjustment must be carried out only when height is not correct.
2. After adjustment, check it with video tape running condition.
3. After completion of adjustment, carry out tape running adjustment.
   After adjusting guide roller (L, R), check as shown in Fig. 16-a.
4. Do not move nut by any means after completion of adjustment.
5. After completing adjustment, always fix P1 post by paint lock (red) and guide roller by screw lock.

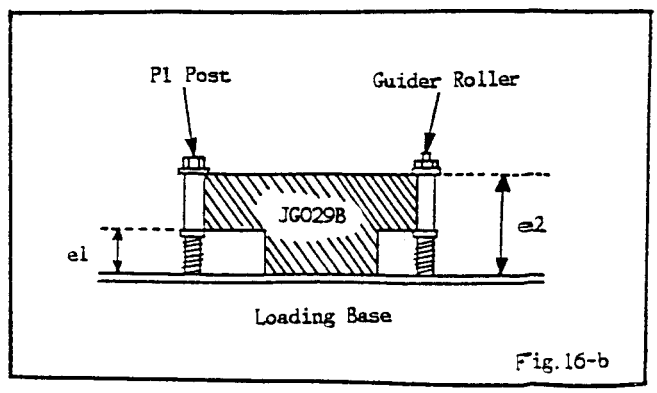


Fig.16-b

■A-17: REPLACEMENT OF A/C HEAD

●REPLACEMENT

1. Remove solders of lead wires placed on A/C Head P.C.Board, and take lead wires away from P.C.Board.
2. Loosen set screw ③ using JG008C. (Fig. 17-a)
3. Remove screw ④ using plus (+) driver.
4. Remove A/C Head screw ⑥ using plus (+) driver. Carefully do this, because there is spring between plate and A/C Head screw.

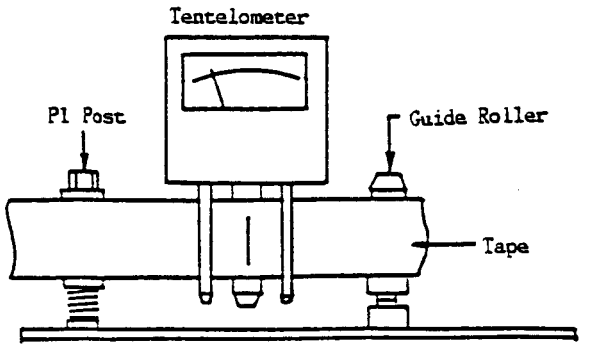


Fig.14-b

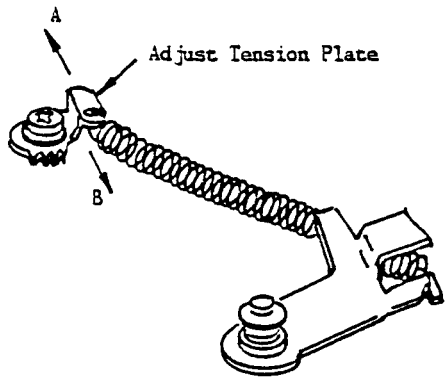


Fig.14-c

■ A-15: CONFIRMATION OF REEL BRAKE TORQUE

■ A-15-1: Confirmation of medium brake on supply and take-up side.

● CONFIRMATION

1. Unplug from power source and connect 27 ohm resistor between ⑦ pin of CP1010 on syscon PCB and ground.
2. Release reel idler away from supply reel disk and set torque gauge (JG002F). Refer to Fig. 15-a.
3. Plug into power source.
4. Turn torque gauge slowly (one turn in a few seconds) and confirm that medium brake torque is more than 100g.cm.
5. In case take-up reel brake is measured, connect 27 ohm resistor between ② pin of CP1010 on syscon PCB and ground and set gauge in take-up reel. Refer to Fig. 15-b.

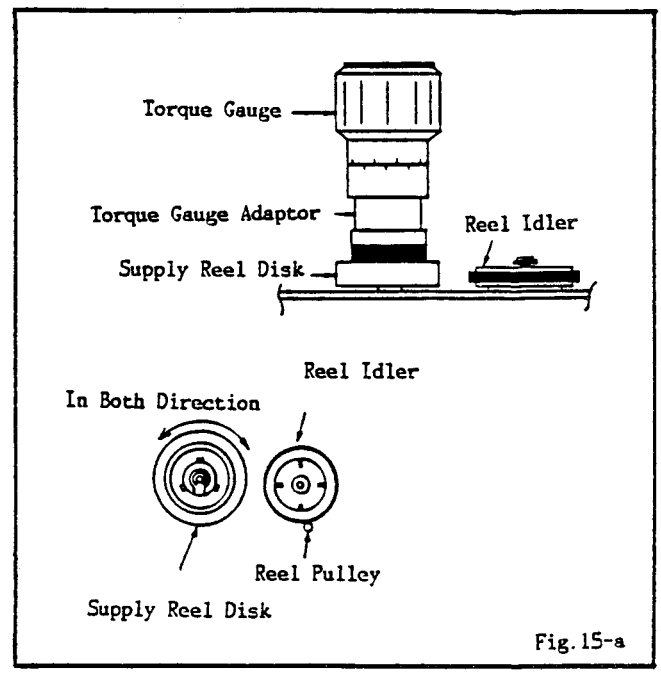


Fig.15-a

● NOTE

1. Measure within ten seconds after plugging into power source cord, and disconnect where terminated after measurement.
2. Confirmation of medium brake torque should be done in both clockwise and counter-clockwise directions.
3. Set point of medium brake torque should be more than 100g.cm and less than half of strong brake torque on.

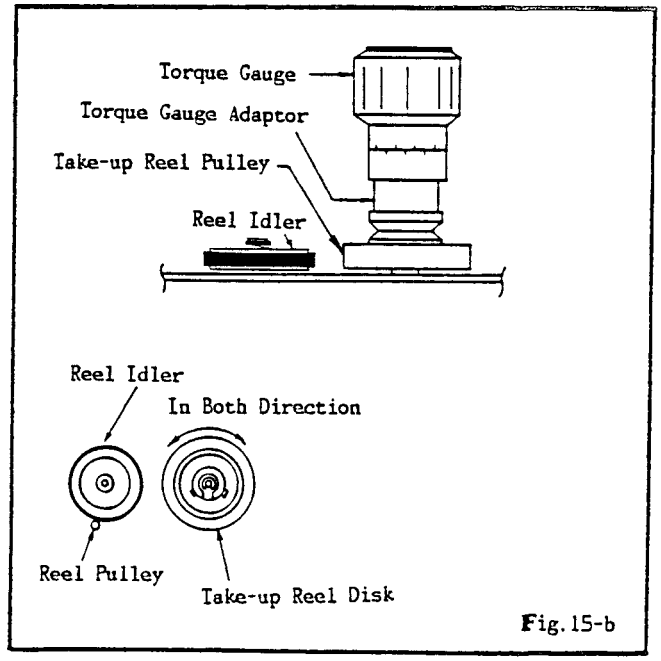


Fig.15-b

● POSITIONING

1. In case tension pole is positioned to the left from center of S.I. Roller by less than 4.0mm, move tension band adjustment angle ① to direction of arrow B (Fig.12-b), then screw ② shall be tightened .
2. In case tension pole is positioned on the left of center of P1 post. by more than 4.5mm, move tension band adjustment angle ① to direction of arrow A (Fig.12-b), then screw ② shall be tightened.

● NOTE

1. After completion of positioning, do not forget to fix the position with paint.
2. Do not screw too tight, so that screw thread may not be damaged.

■ A-13: CONFIRMATION AND ADJUSTMENT TO ENSURE THAT TENSION POLE IS VERTICAL

● CONFIRMATION

1. Set fixed SI roller height chip (JG029B) as per Fig.13.
2. In this condition, confirm that tension pole is vertical.

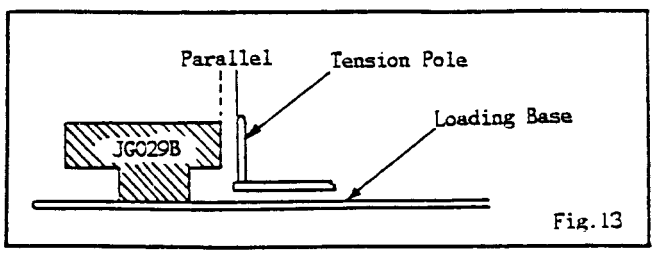


Fig.13

■ A-14: CONFIRMATION AND ADJUSTMENT OF BACK TENSION OF RECORDING AND PLAYBACK

● CONFIRMATION

○ When you use back tension measuring cassette.
1. Set the measuring cassette tape.
2. Set the unit in recording mode. At this time, confirm, by pointer of the measuring cassette tape, that back tension is within set points (30 - 50g.cm).
3. Confirm video tape is tightly ronning on fixed guide.
4. At beginning and ending of tape, confirm there is no sag nor damage on edge of tape.

○ When you use tentelometer.
1. Set E-180 cassette tape to the begining.
2. Set the unit in recording mode.
3. Pull Impedance roller toward arrow A as in Fig.14-a and set tentelometer as in Fig.14-a, 14-b confirming tape tension is within set-up points (23 - 28g).
4. Confirm video tape is running tight on P1 post.
5. Confirm there is no sag nor damage on edge of tape both in beginning and ending of tape.

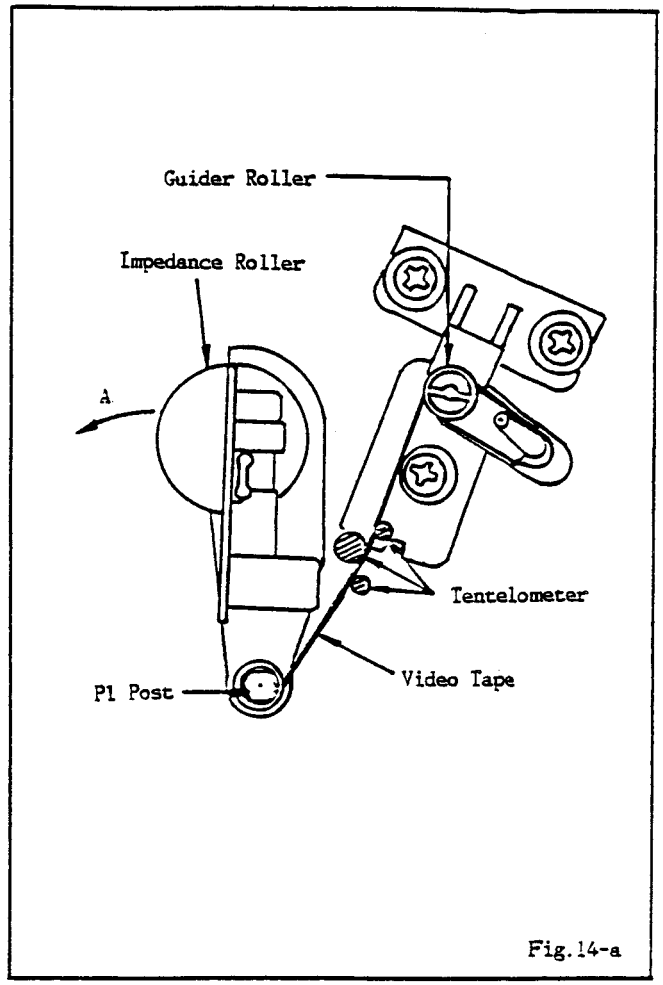


Fig.14-a

● ADJUSTMENT

1. In case tape tension is weaker than 23g,cm, adjust tension plate on arrow A side of Fig. 14-C and reconfirm the tension.
2. In case tape tension is stronger than 28g.cm, adjust tension plate on arrow B side of Fig. 14-C and reconfirm the tension.
(Used adjust screw driver, JG023)

● NOTE

1. The tentelometer should not touch F. E. Head, drum or other component where tape may go over it.
2. When you use the back tension measuring cassette, it is recommended to use tentelometer, too, for proof reading.
3. Use paint lock after adjustment.
4. Do not screw too tight, otherwise the ridges will be broken.

■ A-8: CONFIRMATION OF SEARCH CUE BACK TENSION

● CONFIRMATION

1. Set the unit in play mode by pushing Play Button.
2. Push seach Cue Button and the unit will be in seach cue mode. Confirm auxiliary brake is working on supply reel disk.
3. Put torque gauge JG002E on supply reel disk and make slow turn (one turn is a few seconds). Measure torque of this and confirm it satisfies set-up point (15 - 35 g.cm).

● NOTE

1. After positioning tension arm, conduct confirmation and adjustment of visual cue back tension.
2. Put torque gauge JG002E on reel disk steadily and measure.
   In case torque gauge is playing, correct measurement will not be done.
3. The back tension of visual cue must be in 15 - 30 g.cm.

■ A-11: CONFIRMATION AND ADJUSTMENT OF CLEARANCE BETWEEN CAPSTAN SHAFT AND PINCH ROLLER

● CONFIRMATION

1. Set the unit in record mode by pushing Record Button.
2. Set the unit in pause mode by pushing Pause Button.
3. In this condition, check visually that the clearance between pinch roller and capstan shaft is within the set-up points (1.0 ~ 1.5 mm).

● ADJUSTMENT

1. In case the clearance between pinch roller and capstan shaft is out of the set-up points, loosen screw that is fixing the connect rods A and B to make adjustment.
2. After adjustment, paint or glue the screw.

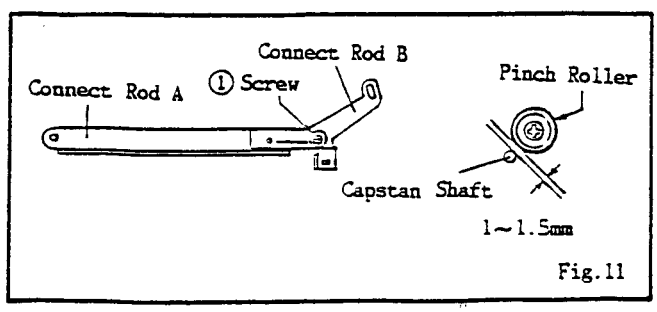


Fig.11

■ A-12: CONFIRMATION AND ADJUSTMENT OF TENSION POLE POSITION

● CONFIRMATION

1. Set the recorder in play mode by pushing Play Button.
2. As soon as guide rollers, L, R begin to draw tape from cassette, tension pole shall move to the left, thus loading will start. Confirm tension pole position at this stage.
3. When the tape (E-180) comes near the end, confirm by eye that the center of tension pole is positioned 4.0 - 4.5 mm to the left from center of P1 post. 4. Confirm that video tape is not curling at flange of P1 post or is not running on flanges.

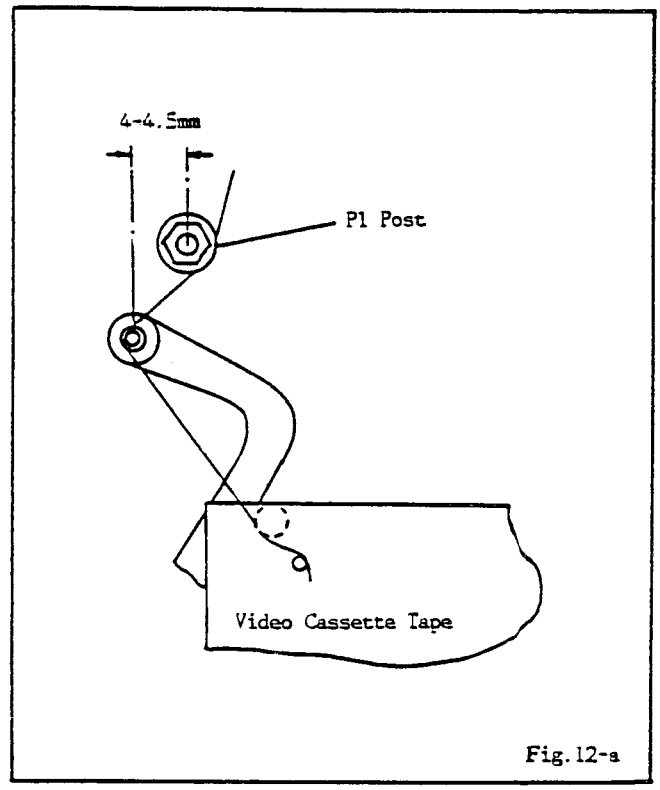


Fig.12-a

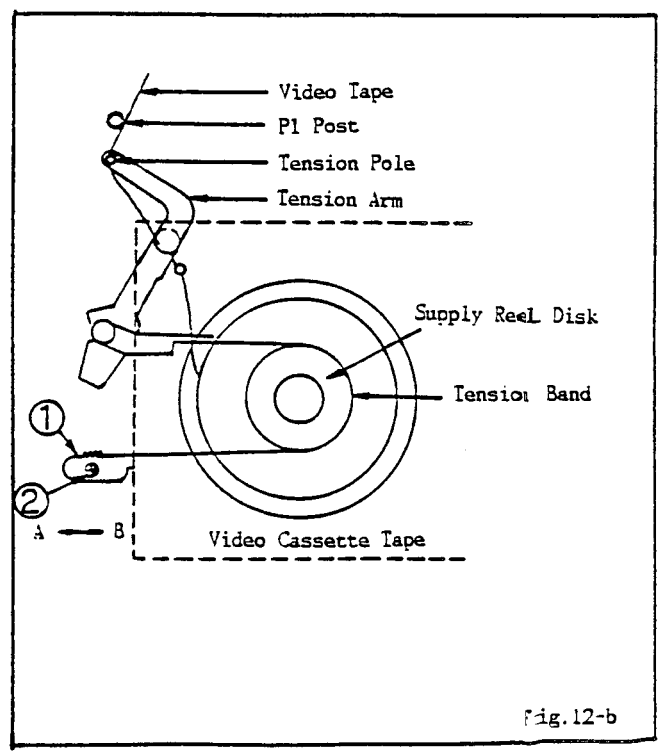


Fig.12-b

● FIXING UP

(Supply Reel Disk.)

1. Clean reel disk shaft and put in height adjusting washer ⑤.
2. Attach new supply reel disk.
3. Make height adjustment of reel disk using master plane (JG022) and reel table height chip (JG024).
4. Pull out new supply reel disk. After oiling (Diamond Oil Hydrofluid No.56) on reel disk shaft, attach the new supply reel disk again.
5. Attach polyslider washer ①.
6. Attach tension band.
7. Set the Tension Arm Spring back in its place.

(Take-up Reel Disk)

1. Clean reel disk shaft and put in height adjusting washer ⑤.
2. Attach new take-up reel disk.
3. Make height adjustment of reel disk using master plane (JG022) and reel table height chip (JG024) .
4. Pull out new reel take-up disk. After oiling (Diamond Oil Hydrofluid No.56) on reel disk shaft, attach the new take-up reel support again.
5. Attach polyslider washer ①.
6. Attach counter belt ⑥.

● NOTE

1. Make height adjustment of reel disk after replacement.
2. Be careful not to deform tension band at the time of removal and attachment.
3. Be careful not to deform auxiliary brake lever.
4. Reel disk is designed to fit a nail on the reel unit slip plate.
   Turn the reel disk slightly with your finger and fix it.
5. Be careful not to scratch reel disk shaft by polyslider washer or tool at the time of removal and attachment.
6. After attachment, confirm V/S back tension in accordance with ■A-7.
7. Refer to ■A-2 for reel disk height adjustment.

■A-2: HEIGHT CONFIRMATION AND ADJUSTMENT

● ADJUSTMENT

1. Set master plane (JG022) at mechanism framework, taking care not to scratch drum, as shown in Fig. 2-(a).
2. Confirm that the master plane (JG022) sits between A and B, as shown in Fig. 2-(b), using reel table height chip (JG024). In case it is beyond the range of set-up value, adjust it by height adjusting washer, making up-down play within 0.1 - 0.5 mm.

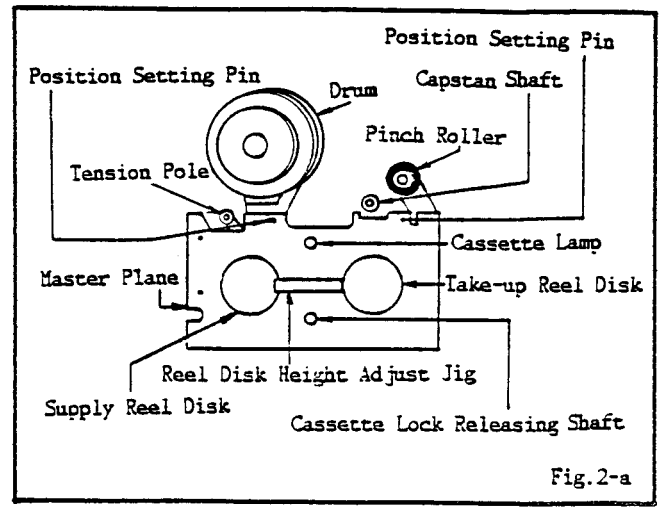


Fig.2-a

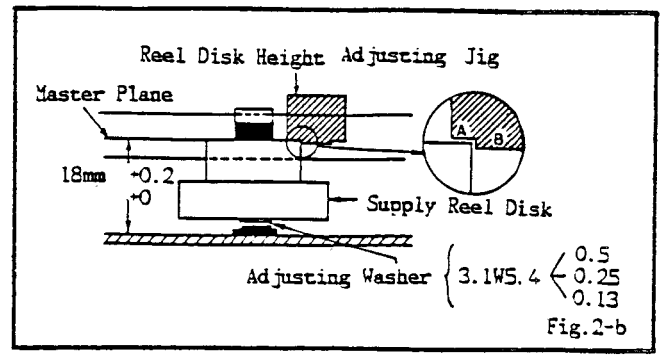


Fig.2-b

■A-3: FASTFORWARD AND ITS TAKE-UP TORQUE CONFIRMATION AND ADJUSTMENT

● CONFIRMATION

1. Set torque gauge (JG002D) on take-up reel disk, and place unit in fast forward mode.
2. Confirm that no slip occurs between reel idler and reel motor pulley or between take-up reel disk at more than 800g.cm torque.

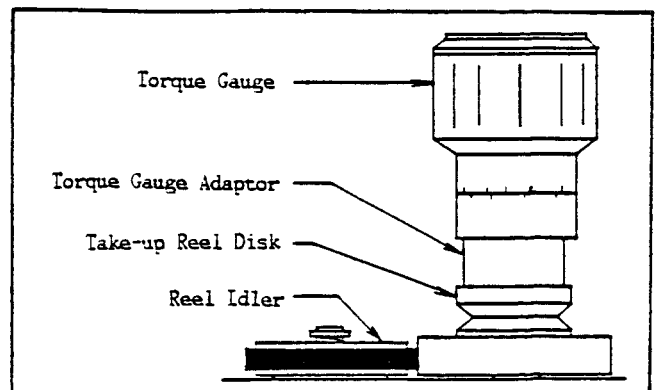


Fig.3-a

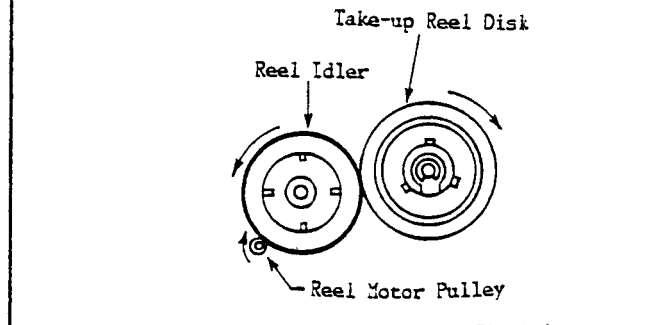


Fig.3-b

● ADJUSTMENT

In case fast forward take-up torque does not go over set-up value, clean reel motor pulley, reel idler and take up reel disk by solution and check again.

● NOTE

1. Hold the torque gauge (JG0002D) in place when you push Fast Forward Button and reel disk begins to turn, after setting torque gauge (JG0002D) on the reel disk.
2. Carry out this confirmation and adjustment without using video cassette tape.

■ A-4: REWIND AND ITS TAKE UP TORQUE CONFIRMATION AND ADJUSTMENT

● CONFIRMATION

1. Set torque gauge (JG0002D) on supply reel disk, and place unit in rewinding mode.
2. Confirm no slip occurs between reel idler, reel motor pulley or between supply reel disk at more than 800g/cm torque.

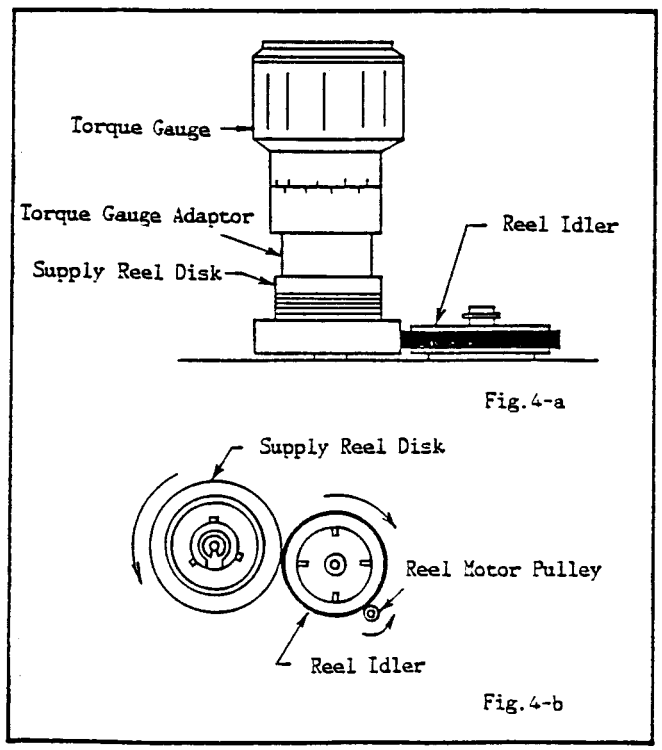


Fig.4-a

Fig.4-b

● ADJUSTMENT

In case rewind take-up torque does not go over set-up value, clean reel motor pulley, reel idler, supply reel disk by solution and check again.

● NOTE

1. Hold the torque gauge (JG0002D) in place when you push Rewind Button, and reel disk begins to turn, after setting torque gauge (JG0002D) on the reel disk.
2. Carry out this confirmation and adjustment without using video cassette tape.

■ A-5: PLAY BACK TAKE-UP TORQUE CONFIRMATION AND ADJUSTMENT

● CONFIRMATION

Put torque gauge (JG027) into take-up reel disk and confirm torque is within set-up value (175g ±15).

SP MODE: 175 ±15 g/cm (VR2007)

● ADJUSTMENT

1. In case playback take-up torque is beyond the range of set-up value adjust take-up torque with the adjusting volume.
2. Rotate SP torque volume (VR2007) in SP recording mode to be beyond the range of set-up value for take-up torque.

● NOTE

1. Read center value in irregularity range as set-up value considerating that take-up torque changes because of irregularity of turning torque in motor.

■ A-6: CONFIRMATION OF FAST FORWARD BACK TENSION

● CONFIRMATION

1. Set the unit in fast forward mode by pushing Fast Forward Button.
2. Put JG002E on supply reel disk and make slow right turn (one turn in a few seconds). And confirm torque is within set-up value (15g.cm - 35g.cm).

● NOTE

1. Put torque gauge JG002E on reel disk steadily and measure.

■ A-7: CONFIRMATION OF REWIND AND V/S REWIND BACK TENSION

● CONFIRMATION

1. Set the unit in rewind mode by pushing Rewind Button.
2. Put JG002E on take-up reel disk and make slow left turn (one turn in a few seconds) and confirm torque is within set value (10 - 20 g.cm).

● NOTE

1. Put JG002E on reel disk steadily and measure.
2. Rewind back tension and back tension of V/S-REW are same.

● PRECAUTION

○ Remove the following before adjusting the Deck and then start working.

1. Top Cabinet (2 pieces of screws)
2. Bottom Plate (7 pieces of screws)
3. Front Panel (3 pieces of screws)
4. Shield Plate (2 pieces of screws)
5. Stage
   (Refer to stage removal and fixing up)

   Carefully read each items in ● NOTE sections before start working.

○ To operate the Deck in the state which leave the stage remove from the unit.

* Short the Cassette In Switch Terminal with the Deck Chassis.
* Place an object which weighs between 350g and 500g on the Video Tape to keep it stayed while using the Video Cassette Tape. (Do not place an object which weighs over 500g.)

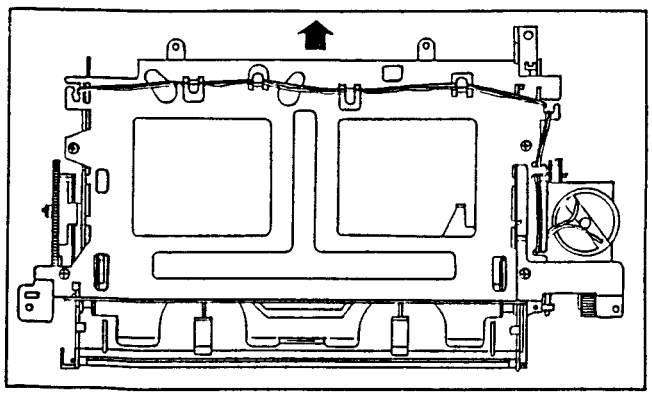
HOW TO REMOVE AND INSTALL STAGE

● REMOVAL

1. Disconnect the 9 pin connector, which has been connected to the stage PCB, from the system control PCB.
2. Remove 2 pieces of screws fixed to inside panel.
3. Remove 2 screws (Tap-tight Bind Head, M3x6 Red) while stage is locked when power switch is OFF.
4. Push the stage toward arrow mark, and lift it up to remove the stage.

● NOTE

1. When you remove and install stage, be careful it may not touch guide pin or cylinder head.
2. Be careful not to break connectors or cut leads.



HOW TO INSTALL

1. Disconnect the short between the Cassette In Switch Terminal and the deck chassis.
2. Set the stage and fix it with two screws (Tap-tites Bind Head M3x6, Red).
3. Fix two pieces of screws to inside panel.
4. Connect ⑨ pin connector, which comes from stage, to system control PCB.

● NOTE AFTER INSTALLMENT

1. Check the following:

a. Make sure that the Front Loading Operation works well when turning on the power and then inserting a cassette pack into the stage.
b. If it becomes play mode after Play Button is pushed.
c. If it becomes recording mode after Recording Button is pushed.
d. If it ejects after Eject Button is pushed.

● NOTE

1. Under this operation system, end sensor and start sensor are opened. So auto rewind at the time of tape end will not work.
2. When you want to make tape run without stage, put about 500g weight (do not exceed over 500g).

■ A-1: REPLACEMENT OF REEL DISK AND CONFIRMATION OF ITS HEIGHT

● REMOVAL

(Supply Reel Disk)

1. Separate rear brake from reel disk.
2. Remove tension band.
3. Remove polyslider washer ①.
4. Pull supply reel disk ③ upward and replace it.

(Take-up Reel Disk)

1. Separate rear brake from reel disk.
2. Remove belt pulley ⑥.
3. Remove polyslider washer ①.
4. Pull take-up reel disk ④ upward and replace it.

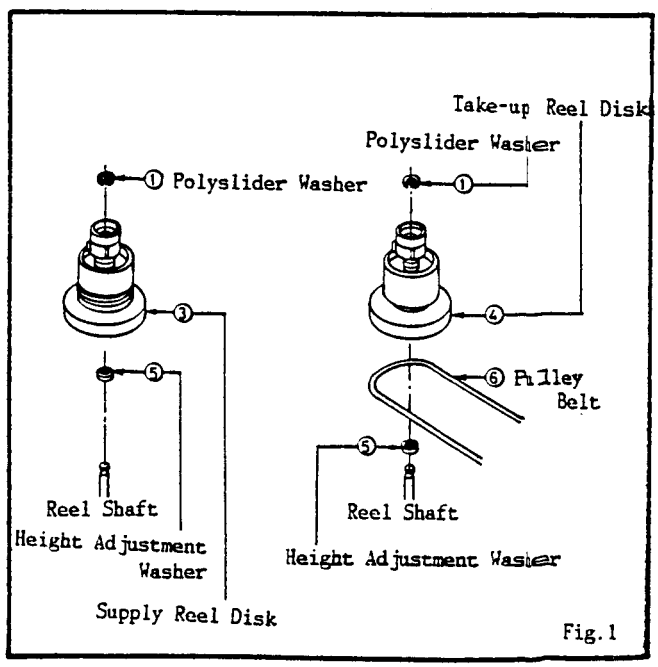


Fig.1

DECK PARTS LOCATION